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**NAVAL  
POSTGRADUATE  
SCHOOL**

**MONTEREY, CALIFORNIA**

**THESIS**

**MACROECONOMIC CONSEQUENCES OF JOB  
DISCRIMINATION AGAINST WOMEN IN RUSSIA**

by

Lisa Deitle

June 2010

Thesis Advisor:  
Second Reader:

Robert Looney  
James Moltz

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This thesis contends that the government of the Russian Federation will benefit more from policies that end job discrimination against women than policies aimed at trying to get women to embrace their traditional gender role as wife and mother in hopes that it will improve fertility rates. While Russia is enduring concurrent demographic and economic crises, there are trade-offs between empowering women with equal job opportunity and high fertility rates, usually referred to as the Demographic-economic Paradox. While fertility rates are an important aspect of population growth, evidence indicates that the high mortality rate is more detrimental to Russia's population growth rates. Thus, government policies to curb needless deaths will be more beneficial for the Russian population overall than attempts to revitalize traditional gender roles to increase fertility rates, especially in a depressed economic environment. Moreover, as the sex ratio of women to men increases, changes in the social and economic structure are inevitable.

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**MACROECONOMIC CONSEQUENCES OF JOB DISCRIMINATION AGAINST  
WOMEN IN RUSSIA**

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Major, United States Marine Corps  
B.A., Mount Olive College, 1999

Submitted in partial fulfillment of the  
requirements for the degree of

**MASTER OF ARTS IN SECURITY STUDIES  
(EUROPE AND EURASIA)**

from the

**NAVAL POSTGRADUATE SCHOOL  
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## ABSTRACT

This thesis contends that the government of the Russian Federation will benefit more from policies that end job discrimination against women than policies aimed at trying to get women to embrace their traditional gender role as wife and mother in hopes that it will improve fertility rates. While Russia is enduring concurrent demographic and economic crises, there are trade-offs between empowering women with equal job opportunity and high fertility rates, usually referred to as the Demographic-economic Paradox. While fertility rates are an important aspect of population growth, evidence indicates that the high mortality rate is more detrimental to Russia's population growth rates. Thus, government policies to curb needless deaths will be more beneficial for the Russian population overall than attempts to revitalize traditional gender roles to increase fertility rates, especially in a depressed economic environment. Moreover, as the sex ratio of women to men increases, changes in the social and economic structure are inevitable.

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## I. INTRODUCTION

### A. MAJOR RESEARCH QUESTION

What are the macroeconomic consequences of job discrimination against women in Russia? There are currently 456 jobs that women in Russia are prohibited from doing.<sup>1</sup> These jobs range from luggage porter to stallion breeder and from metro train driver to firefighter. Most of these jobs require physical strength or work with hazardous materials. However, they are all adequately fulfilled by women in other countries and, in some cases, were previously filled in the Soviet Union. While the list of prohibited jobs ostensibly focuses on protecting women, it completely ignores other dangerous occupations—making the list seem insincere and inconsistent. For example, Russian laws permit women to work in the nuclear industry and even protect beauty pageants that glamorize the hazardous profession.<sup>2</sup> Moreover, the medical occupations are dominated by women without regard to their exposure to highly contagious and infectious patients. Additionally, many of these prohibited jobs are in lucrative industries, such as oil-drilling. Barring women from these jobs inhibits them from achieving positions in these well-paid fields and stymies their economic, professional, and social growth potential. These limitations upon women could have macroeconomic consequences for the Russian Federation, especially considering that women comprise almost 54 percent of the population and Russia's overall population has been declining for years.<sup>3</sup>

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<sup>1</sup> Govenment of the Russian Federation, “The List of Heavy Work and Jobs with Harmful or Dangerous Conditions Prohibited to Women,” *RF Government Decree of 25 February 2000 N 162*, trans. Universal Technical Translation (Moscow: Govenment of the Russian Federation, 2000).

<sup>2</sup> The Miss Atom Beauty Contest is only open to women in the nuclear industry and has been held since 2004. Its specific intent is to encourage people to work in the nuclear industry, especially young women. More information from the six preceding years can be found at [www.miss2009.nuclear.ru](http://www.miss2009.nuclear.ru) (Microsoft Translator). Clarissa Ward, “Nuclear Beauties Wanted for Russian Competition,” *ABC News / Technology*, February 17, 2009, <http://abcnews.go.com/Technology/story?id=6889182&page=1>.

<sup>3</sup> United States Central Intelligence Agency, *CIA World Factbook: Russia*, October 2009, <https://www.cia.gov/library/publications/the-world-factbook/geos/rs.html>.

## **B. IMPORTANCE**

Henry Hazlitt wrote that one of the biggest fallacies in economics is that the policy makers only look at the immediate effects of a given strategy and fail to anticipate secondary consequences.<sup>4</sup> Russia is currently dealing with two crises: economic instability and population decline. Each crisis exacerbates the other. The government of the Russian Federation exercises great power over its economy through a system of management policies that is referred to as state capitalism.<sup>5</sup> While the Russian government has implemented policies to enhance its economic stability and growth, it is struggling to initiate programs that will alleviate its depopulation. Specifically, the Russian birthrate is declining and, consequently, the median age of the population is increasing. There is a 14-year disparity in life expectancy between males (59 years) and females (73 years).<sup>6</sup> Presently, women outnumber men and will continue to do so in the foreseeable future. This demographic change may adversely affect industrial expansion and encumber social development. The Russian government has made economic reform and population stabilization its two top domestic priorities; however, its labor policies towards women may be counterproductive.<sup>7</sup> To prevent further unwanted consequences in the economy, it behooves the Russian Federation to reexamine its current labor policies concerning women.

## **C. QUESTIONS AND HYPOTHESES**

### **1. Questions**

How does the Russian government justify job discrimination against women despite a contracting economy and declining population? An analysis of the precedent and justification for the current Russian legislation that legalizes job discrimination

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<sup>4</sup> Henry Hazlitt, *Economics in One Lesson* (New York: Three Rivers Press, 1979), 15.

<sup>5</sup> State capitalism refers to a mixed economy where the state controls major industries. For example, the Russian Federation controls GAZPROM (Oil and Gas) and Mashpriborintorg (Exports). Ian Bremmer, “State Capitalism Comes of Age,” *Foreign Affairs* (May/June 2009), 41.

<sup>6</sup> United States Central Intelligence Agency, *CIA World Factbook*.

<sup>7</sup> Elvira Nabiullina, “Facing Unprecedented Challenges,” *FIRST Special Report*, June 9, 2009, <http://www.firstmagazine.com/DownloadSpecialReportDetail.231.ashx>, 26–27.

against women will help to determine if those laws are outdated. If the laws are old and not applicable to current events, then they should be modified.

How does job discrimination against women affect Russia's macro economy? If current trends remain the same, the Russian population will continue to decline and the women's majority share of the labor force is likely to continue to increase in percentage. With a lopsided population, there may not be enough men to fulfill the labor requirements, and the Russian government may be forced to change its policies towards women to maintain economic growth.

When could labor shortages affect the Russian Federation? Without drastic changes, most experts agree that within the next 10 to 20 years Russia's demographic crisis could spill over into an economic crisis due to labor shortages. Beginning as early as 2015, some predict that the population outside the established working age might be twice that of the current working-age group.<sup>8</sup> Time is critical, and the government of Russian Federation is already in a reactive phase to counteract the current demographic and economic challenges.

What are alternative solutions to stave off a labor shortage crisis without altering labor laws that prohibit women from heavy and dangerous jobs?

**a. Patriarchal Solution**

A converse solution to equal employment as a remedy to the demographic and economic crises is to continue to reinforce gender roles. A major trend in developing countries is the reduction of fertility rates through the empowerment of women.<sup>9</sup> In this respect, female empowerment is similar to the Demographic-economic Paradox except that it is women's equality that is specifically associated with female higher education

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<sup>8</sup> Government of the Russian Federation, "The Concept of Population Policy of The Russian Federation for the Period Until 2015," *AKDI*, trans. Microsoft Translator, 2003, <http://www.akdi.ru/econom/program/demogr.html>.

<sup>9</sup> E. Wayne Nafziger, *Economic Development*, (Cambridge, NY: Cambridge University Press, 2006), 304.

and labor force participation that result in declining fertility rates.<sup>10</sup> Therefore, it seems rational that if policy makers want to increase fertility rates, they would restrict women's access to higher education and employment. The logic of disempowering women to increase fertility rates began during the Soviet era under former Soviet leaders Nikita Khrushchev (1953–1964) and Leonid Brezhnev (1964–1982).<sup>11</sup> Still, there is the economic-demographic trade-off: a wealthier society has a lower fertility rate. Using this course of action to increase fertility rates, the Russian Federation would have to sacrifice economic growth. Explicitly, gender discrimination against women decreases female labor market participation and lowers overall output per capita.<sup>12</sup> The continued threats of demographic and economic crises indicate that any policies of disempowerment that negatively affect the economy may need to be reevaluated.

***b. Increased Productivity Solution***

Increasing labor productivity could mitigate the negative effects of a declining labor market. However, Russia has a low labor productivity rate. For comparison, Russia's labor productivity is approximately 26 percent of equivalent labor productivity in the United States.<sup>13</sup> Recently, Elvira Nabiullina, the Russian Federation Minister of Economic Development, stated that the Russian Federation is looking to quadruple its labor productivity within the next 12 years.<sup>14</sup> Obviously, the intent is to compete with the United States. Yet, in the last 10 years and despite a few fluctuations,

---

<sup>10</sup> Economic-Demographic Paradox is an inverse correlation of wealth and fertility rates within a country or other groups. The paradox stems from the observation that a wealthier society can support more children than a poorer society, yet countries or groups with higher per capita GDP have fewer children.

<sup>11</sup> Melanie Ilic, "Generals without Armies, Commanders without Troops," in *Women in Russia and Ukraine*, ed. Rosalind Marsh, 230 (New York: Cambridge University Press, 1996).

<sup>12</sup> Tiago V. Cavalcanti and Jose Tavares, "The Output Cost of Gender Discrimination: A Model-Based Macroeconomic Estimate," research paper, (Lisboa, Portugal: Universidade Nova de Lisboa, 2007), 2.

<sup>13</sup> Vitaly Klintsov, Irene Shvakman, and Yermolai Solzhenitsyn, "How Russia Could be More Productive," *McKinsey Quarterly*, September 2009, [http://www.mckinseyquarterly.com/How\\_Russia\\_could\\_be\\_more\\_productive\\_2435](http://www.mckinseyquarterly.com/How_Russia_could_be_more_productive_2435).

<sup>14</sup> Elvira Nabiullina has been the Russian Minister of Economic Development and Trade since September 2007. Nabiullina, "Facing Unprecedented Challenges," 26–27.

Russia's labor productivity has only gained four percent on the United States' rate.<sup>15</sup> Pursuing this solution seems overly ambitious, especially considering that Russia will lose about 10 million workers by 2020.<sup>16</sup> Unless the Russian Federation makes drastic changes in its labor force, such as opening all doors to women, their ability to quadruple production seems highly unlikely.

*c. Immigration Solution*

Another possible solution is for the Russian Federation to import more labor from populous countries, such as China or India, or from the developing nations with a burgeoning population but limited industrial employment—such as Nigeria or Ethiopia. Unfortunately, Russia has a record of xenophobic hate crimes against non-Slavic immigrants, and government officials are slow to make any efforts to ease the social friction.<sup>17</sup> Additionally, there is intense competition between Russians and newcomers over scarce urban resources, especially housing.<sup>18</sup> Until Russian officials are prepared to deal with a large influx of ethnically diverse migrants, immigration is not the likely answer to the labor shortages. Immigration might actually contribute to additional employment woes, especially from unemployed Russian nationals that blame migrants for “taking their jobs.”<sup>19</sup>

**2. Hypotheses**

Job discrimination against women in the Russian Federation has several macroeconomic consequences. One, economic growth is stymied because there are not enough workers to fill all jobs; furthermore, a large percentage of the workforce—specifically women—have restricted working conditions that lead to limited opportunities and employment discrimination. Two, competition between males and females in the

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<sup>15</sup> According to McKinsey and Co., the Russian productivity rate was 22 percent in 1999, and it was 26 percent in 2009. Klintsov, Shvakman, and Solzhenitsyn, “How Russia Could be More Productive.”

<sup>16</sup> Ibid.

<sup>17</sup> Glen E. Curtis, ed., “Migration: Issues and Procedures,” *Russia: A Country Study*, Library of Congress Country Studies, [http://lcweb2.loc.gov/cgi-bin/query/r?frd/cstdy:@field\(DOCID+ru0095\).](http://lcweb2.loc.gov/cgi-bin/query/r?frd/cstdy:@field(DOCID+ru0095).)

<sup>18</sup> Ibid.

<sup>19</sup> Ibid.

workplace is constrained, reducing opportunities to find the most productive employees or practices. Three, human capital growth is inhibited. Four, some sectors of the economy prohibited to women will be undermanned consequently lowering output and raising the cost of production. Five, the sectors of the economy with excessive female employees will significantly contribute to unemployment rates and social benefit payouts. Six, because economic opportunities in Russia are limited, women will emigrate.

## **D. LITERATURE REVIEW**

### **1. Egalitarianism and the Soviets**

Throughout Russian history, as in most cultures, women have been known as the “weaker” sex. Women were relegated to tasks that involved child-rearing, cooking, and maintaining a household. Their decisions were limited to domestic concerns whereas men—considered the stronger and smarter of the sexes—handled all other decisions, including veto power over a woman’s domestic decisions.

Following the Crimean War (1853–1856), the “woman question” began to figure prominently in egalitarian and intellectual dialogue.<sup>20</sup> With the end of serfdom, the Russian state faced major social, political, and economic transformation. As the people began to question the Tsar’s authority and move towards revolution, women’s rights also entered the fray. Gail Lapidus explains that it was the lack of political rights for both men and women that created an atmosphere of solidarity between the sexes just before the Bolshevik Revolution of 1917.<sup>21</sup>

The Soviet government proclaimed that it was the first society to achieve equality between men and women.<sup>22</sup> However, as history shows, women’s rights in the Soviet Union were guaranteed only in support of other governmental policies and agendas, such as equal employment during the industrialization of the 1920s and during the war effort

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<sup>20</sup> Richard Stites, *The Women’s Liberation Movement in Russia* (Princeton, NJ: Princeton University Press, 1990), 29.

<sup>21</sup> Gail Warshohsky Lapidus, *Women in Soviet Society: Equality, Development, and Social Change* (Los Angeles, CA: University of California Press, 1978), 37.

<sup>22</sup> Ibid.

in the 1940s.<sup>23</sup> The Soviet command economy required mobilization of all available labor and steadily increasing birthrates to maintain a high rate of industrialization. Because of this demand, the Soviet leaders had a vested interest in controlling when and where women could work.<sup>24</sup> As a result, women were prohibited from all hazardous, underground, night, heavy-lifting, and overtime work as per the Code of Labor Laws.<sup>25</sup> These prohibitions were instituted because Soviet doctors proclaimed that these working conditions were factors in menstrual disorders and problems with pregnancies.<sup>26</sup> Still, according to Donald Filtzer, women “carried out most of the badly paid, hazardous and heavy jobs which men refused to do.”<sup>27</sup>

The Soviet Union experienced huge losses of life during and the Great Purges Famines of the 1930s and the Second World War. To replace lost generations, The Soviet Government encouraged large families. Special privileges, titles, and rewards were given to women that had 10 or more children.<sup>28</sup> Still, the incessantly declining birthrates under General Secretaries Khrushchev and Brezhnev led to policies re-emphasizing a woman’s primary role as mother and homemaker.<sup>29</sup> The Soviet government went so far as to introduce educational reforms designed to encourage new generations to adopt traditional gender roles.<sup>30</sup> As a result, late Soviet legislation and economic restructuring made women vulnerable to unemployment.<sup>31</sup>

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<sup>23</sup> Human Rights Watch, “Neither Jobs Nor Justice: State Discrimination Against Women in Russia,” *REFWORLD*, March 1, 1995, <http://www.unhcr.org/refworld/docid/3ae6a7d80.html>.

<sup>24</sup> Janet Hyer, “Managing the Female Organism,” in *Women in Russia and Ukraine*, ed., Rosalind Marsh, 117 (New York: Cambridge University Press, 1996).

<sup>25</sup> Russian Soviet Government Bureau, *The Labor Laws of Soviet Russia*, 3rd ed. (New York: 1920), 68.

<sup>26</sup> Hyer, “Managing the Female Organism,” 117.

<sup>27</sup> Donald Filtzer, “Industrial Working Conditions and the Political Economy of Female Labor,” in *Women in Russia and Ukraine*, ed., Rosalind Marsh, 215–16 (New York: Cambridge University Press, 1996).

<sup>28</sup> Curtis, *Russia: A Country Study*, “Fertility.”

<sup>29</sup> Ilic, “Generals without Armies, Commanders without Troops,” 230.

<sup>30</sup> Lynn Attwood, “The Post-Soviet Woman in the Move to the Market: A Return to Domesticity and Dependence?” in *Women in Russia and Ukraine*, ed., Rosalind Marsh (New York: Cambridge University Press, 1996), 256.

<sup>31</sup> Ilic, “Generals without Armies, Commanders without Troops,” 230.

## 2. Soviet Labor Code of 1918 and Thereafter

*The Labor Code of the Russian Federation* today remains virtually similar, regarding its treatment of women, to the initial *Soviet Labor Code of 1918*.<sup>32</sup> These 1918 labor laws explicitly forbade women from working overtime, at night, underground, or in dangerous professions.<sup>33</sup> It also established the precedent of a specific list of forbidden jobs for women that was determined and published by government cabinet members.<sup>34</sup> Additionally, both yesterday's Soviet government and today's Russian government have provided seemingly generous parental rights to women, but only because of the societal expectations identifying women as primary caregivers.<sup>35</sup> In other words, the Russian government still encourages gender roles and its current labor policies reinforce these roles, and restrict women.

With the dissolution of the Soviet Union, a new social, political, and economic transformation began. Lynne Attwood explains that the new market economy in Russia is viewed as a masculine realm, and this view has reinvigorated efforts to relegate women to more domestic and “feminized” work.<sup>36</sup> The prevailing attitude in Russia is that men are better suited for competition, and since the market economy is competitive, men are better employees.<sup>37</sup> Moreover, because women have disadvantageous dual duties as workers and homemakers, many Russian employers see them as less reliable and dedicated.<sup>38</sup> However, a recent experiment conducted by Gneezy, Leonard, and List indicated that these gender differences are most likely culturally influenced.<sup>39</sup> They

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<sup>32</sup> Government of the Russian Federation, *Labor Code of the Russian Federation* (Moscow: 2000), and Russian Soviet Government Bureau, *Labor Code of 1918* (Moscow: 1918), [http://www.hist.msu.ru/Labour/Law/kodex\\_18.htm#1](http://www.hist.msu.ru/Labour/Law/kodex_18.htm#1).

<sup>33</sup> Russian Soviet Government Bureau, *The Labor Laws of Soviet Russia*, 68.

<sup>34</sup> Russian Soviet Government Bureau, *Labor Code of 1918*.

<sup>35</sup> Human Rights Watch, “Neither Jobs Nor Justice.”

<sup>36</sup> Attwood, “The Post-Soviet Woman,” 255.

<sup>37</sup> Ibid.

<sup>38</sup> Ibid.

<sup>39</sup> Uri Gneezy, Kenneth L. Leonard, and John A. List, “Gender Differences in Competition: Evidence from a Matrilineal and a Patriarchal Society,” *Econometrica: Journal of the Econometric Society* (September 2009), 1637–1664.

demonstrated that, in a patriarchal society, women are less likely to compete than men whereas the reverse is true in a matrilineal society.<sup>40</sup> Thus, the competitiveness of women and their marketability in the workplace appears to be significantly influenced by the patriarchal culture of Russia. Traditional gender roles are reinforced by the schools, mass media, and legislative initiatives in an effort to restore the “natural order.”<sup>41</sup> Despite these limitations, high-ranking members of the Russian government such as the Minister of Economic Development and Trade, Elvira Nabiulla, do not feel that women are impeded from achieving their potential.<sup>42</sup>

### **3. Gender Roles and Demographics**

While a bread-winning role and domestic role are complementary, the sexes have historically not been able to achieve full interchangeability. A Russian man can stay home and raise children with little but social pressures to dissuade him from doing so, whereas a woman faces legal job discrimination that hinders labor force participation. In Russia, these social roles are quite pronounced. The governmental position of job sexism is best explained by the former Russian Minister of Labor, Gennady Melikyan, who said:

Why should we employ women when men are unemployed? It's better that men work and women take care of children and do housework. I don't want women to be offended, but I don't think women should work while men are doing nothing.<sup>43</sup>

Thus, the social and legal systems endorse gender roles that prevent full role interchangeability and stymie economic potential.

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<sup>40</sup> Gneezy, Leonard, and List, “Gender Differences in Competition,” 1660.

<sup>41</sup> Russia Rule of Law Program, American Bar Association’s Central European and Eurasian Law Initiative (ABA/CEELI), *CEDAW Assessment Tool Report for the Russian Federation*, trans. Olga Vovk, 18.

<sup>42</sup> Nabiullina, “Facing Unprecedented Challenges.”

<sup>43</sup> Gennady Melikyan was the Russian Minister of Labor (1992–1996), the Minister of Labor and Development (1996–1997), Deputy Chairman of Sberbank (RF-owned bank)(1997–2003), and Bank of Russia Deputy Chairman (2003–2007). He has been the First Deputy of the Central Bank of Russia since 2007. Helen Womack, “Why Employ Women When there are Men out of Work? It's Better that Women do Housework,” *The Independent* (March 21, 1993), <http://www.independent.co.uk/news/world/why-employ-women-when-there-are-men-out-of-work-its-better-that-women-do-housework-sex-discrimination-in-russia-is-now-close-to-becoming-official-policy-1498922.html>.

The current restrictions on women and their resulting subordination are further exacerbated by Russian demographics. Elena Sargent points out that the Russian ideal of a housewife supported by a working husband is inapplicable to about 10 million single mothers.<sup>44</sup> Additionally, since there are over four million more women than men aged 15–64, it is unrealistic to think that all women are able to find a man to take care of them when there are not enough men to go around.<sup>45</sup> Furthermore, because of the 14-year disparity in the average life expectancy between men and women, there are over seven million more women than men over the age of 65.<sup>46</sup> Thus, over 15 percent of the Russian population consists of women who need to support themselves—possibly with children.<sup>47</sup> Unfortunately, female-dominated sectors of the economy, such as healthcare, education, and accounting, have the lowest wage levels and women are underrepresented in managerial positions.<sup>48</sup> Overall, in Russia, women's salaries are about 64 percent of men's salaries.<sup>49</sup> So, it is clearly understandable that many women would desire employment in the prohibited occupations because these jobs can offer higher wages, less working hours, longer holidays, and earlier retirement than some other occupations.<sup>50</sup> A thorough study by the United Nations' Committee of the Elimination of Discrimination Against Women (CEDAW) found that many women are already working in violation of the *Labor Code of the Russian Federation* within the informal sector, and that this illegal employment denies those women state pensions and other benefits.<sup>51</sup> The effects of job discrimination against women continue to compound and affect all areas of Russian life.

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<sup>44</sup> Elena Sargeant, “The ‘Woman Question’ and the Problems of Maternity,” in *Women in Russia and Ukraine*, ed., Rosalind Marsh (New York: Cambridge University Press, 1996), 270.

<sup>45</sup> United States Central Intelligence Agency, *CIA World Factbook*.

<sup>46</sup> Ibid.

<sup>47</sup> As an alternative to self-supporting women, in 2006, Russian Parliamentary Deputy Speaker, Vladimir Zhirinovsky, famously stated that polygamy should be legalized in Russia because the women outnumber men. BBC News, “Polygamy Proposal for Chechen Men,” *BBC World* (January 13, 2006), <http://news.bbc.co.uk/go/pr/fr/-/2/hi/europe/4610396.stm>.

<sup>48</sup> ABA/CEELI, CEDAW Assessment Tool Report for the Russian Federation, 18.

<sup>49</sup> Ibid., 82.

<sup>50</sup> Ilic, “Generals without Armies, Commanders without Troops,” 231.

<sup>51</sup> ABA/CEELI, CEDAW Assessment Tool Report for the Russian Federation, 18.

#### 4. Macroeconomic Effects of Discrimination

One fallacy concerning employment discrimination is the belief that there is a fixed amount of work to be done. Hazlitt argued that the government should focus on production and not employment. He asserted that because of economic growth and technological innovation, a wealthy nation could eliminate child labor, offer the elderly retirement, and make it unnecessary for women to work.<sup>52</sup> While these ideas may seem grandiose, especially to a patriarchal society, even Hazlitt disregarded the biggest fallacy in economics: secondary effects. These secondary effects are often referred to as unintended consequences. As explained in the section titled “Gender Roles and Demography,” over 15 percent of the female population in Russia needs to be self-supporting—they need jobs. Instead, this thinking justifies discriminatory practices—women do not have to work, therefore, a man should be picked for a job over a woman. Or in Russia’s case, the government protects women from physically challenging or hazardous jobs so that they can make babies. Economists have proven time and time again that these discriminatory practices have secondary consequences for the economy. Nobel Laureate Gary Becker pioneered the study of economic consequences due to social circumstances, such as gender discrimination and inequality. In his book, *The Economics of Discrimination*, Becker explained that discrimination is economically detrimental to the discriminator and discriminated.<sup>53</sup> In other words, the Russian Federation suffers economically from its discriminatory policies because it constrains its labor force and women suffer because they cannot get jobs. Much of the research on the macroeconomic consequences of job discrimination against women focuses decreasing the wage gap to increase purchasing power.

However, there is some research that indicates that open employment also increases the “talent pool” and productivity. Stephan Klasen suggested that low female market (and school) participation artificially restricted economic growth and

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<sup>52</sup> Hazlitt, *Economics in One Lesson*, 61.

<sup>53</sup> Gary S. Becker, *The Economics of Discrimination* (Chicago: University of Chicago Press, 1971).

development because women that could improve working conditions were excluded.<sup>54</sup> Tiago Cavalcanti and Jose Tavares demonstrated that increased fertility and a decrease in female labor market participation lowered output per capita.<sup>55</sup> Berta Esteve-Volart proved that a 10 percent increase in the female-to-male manager ratio in India would increase that country's total output per capita by two percent, and a 10 percent increase in the female-to-male laborers ratio would increase the total output per capita by eight percent.<sup>56</sup> Accordingly, most economists agree that there is a positive correlation between economic growth and increased female labor force participation.<sup>57</sup>

## **E. PURPOSE OF THE RESEARCH**

The purpose of this research is to determine if the macroeconomic consequences of job discrimination against women in Russia warrant a change in its labor policies. This thesis does not take a social stance on whether women have an equal right to work in any profession. Instead, it uses positive economic models to determine if there are significant macroeconomic consequences resulting from the Russian Federation's labor policies towards women. In other words, what are the opportunity costs of job discrimination against women in Russia?

## **F. METHODS AND SOURCES**

To understand the justification for the current job discrimination against women in Russia, this thesis relies on an analysis of primary and secondary sources. There are a plethora of primary and secondary sources explaining the current legislation and contemporary sentiment surrounding the treatment of women in the Russian labor force. Key primary sources will include Russian laws, regulations, and court cases. Published

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<sup>54</sup> Stephan Klasen, *Does Gender Inequality Reduce Growth and Development?* World Bank Policy Research Report Working Paper No. 7 (Washington, DC: World Bank, 1999).

<sup>55</sup> Cavalcanti and Tavares, The Output Cost of Gender Discrimination, 2.

<sup>56</sup> Berta Esteve-Volart, "Gender Discrimination and Growth: Theory and Evidence from India," Research Paper (London: The Suntory Centre, 2004), 46–47.

<sup>57</sup> This thesis does not address the U-shaped relationship between women's labor force participation and economic development. The U-shaped correlation indicates that there is high labor participation among poor, low-skilled working women and highly educated, white-collar working women, and low labor participation of working women in between the two.

articles and official sources are used to describe and analyze the effects of these economic policies. Various quantitative assessments will be used to reach informed judgments about the effectiveness of the Russian government's economic policies towards women, specifically in comparison with other developed market economies. To analyze future Gross Domestic Product (GDP) growth, this thesis uses official government documents and public statistics compiled and distributed by the United Nations, United States, and Russian Federation. Statistical comparisons to other countries with regards to economic production, population and corresponding growth are available through national and international government and nongovernment agencies. Significant primary source data for quantitative analysis is available through the Russian Federal State Statistics Service. Secondary source analysis of this data is available through various several agencies, including the United Nations and the U.S. Central Intelligence Agency.

#### **G. ORGANIZATION OF THE STUDY**

This thesis contains five chapters. Following Chapter I's introduction, Chapter II establishes the paper's analytical framework. Chapter III shows how job discrimination against women in Russia results in structural unemployment. Chapter IV uses positive economic models to demonstrate various macroeconomic scenarios to determine the effects of a more permissive labor market in Russia. Chapter V provides a conclusion and recommends future courses of action for study and policy. A complete, translated version of The List of Heavy Work and Jobs with Harmful or Dangerous Conditions Prohibited to Women that inspired this research is included as an appendix.

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## II. ANALYTICAL FRAMEWORK

### A. INTRODUCTION

To draw conclusions and make recommendations about the Russian Federation's current policies of job discrimination against women, this thesis must establish the context. The thesis is not social commentary about women's equality but an analysis of whether or not job discrimination against women is detrimental to Russia's macro economy. Therefore, this chapter relies primarily upon statistical data. First, this chapter makes some assumptions to narrow the scope of the research. Then, it illustrates the demographic and economic crises in the Russian Federation.<sup>58</sup> This data is used in Chapters III and IV to develop positive economic models that demonstrate the possible effects of eliminating Russian policies of job discrimination against women.

### B. ASSUMPTIONS

This thesis makes three assumptions about the Russian Federation: (1) that immigrants will not be welcomed to lessen the demographic decline due to prevalent xenophobic Russian attitudes, (2) that equality (between Russian men and women) in the workplace is possible, and (3) that the Russian Federation is undergoing demographic transition.

#### 1. Immigration

Current Russian policies towards foreigners have shifted towards anti-immigration populism.<sup>59</sup> Due to severe housing shortages and high unemployment, immigrants in populated areas are particularly unwelcome. Moreover, immigrants have higher fertility rates than Russians, compounding fears that foreigners will outnumber Slavs. The slogan, "Russia is only for Russians," has garnered more support during the current recession while government officials and police often ignore warning signs of

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<sup>58</sup> It is beyond the scope of this thesis to theorize the reasons for the current demographic and economic crises in the Russian Federation.

<sup>59</sup> Owen Matthews and Anna Nemstova, "The Kremlin Vigilantes," *Time Magazine* (February 23, 2009): 36.

impending ethnic conflicts.<sup>60</sup> The Russian government has implicitly endorsed this sentiment by reducing immigration permits from four to two million per year.<sup>61</sup> Thus, immigration will likely not be the answer to Russia's demographic crisis in the near future, and this factor is not considered further in this thesis.

## 2. Equality in the Workplace

Arguments that women are physically incapable of "doing a man's job" are baseless because there are always "some women" that meet the physical standards required of accomplishing a profession—whether a woman wants to do that work or not is a personal decision. Technology, education, and experience are equalizers. A woman's ability to compete can be observed in historical athletic records. Women have proven that they can run marathons, swim the English Channel, lift heavy weights, and skillfully maneuver sophisticated, racing machines or animals. This observation does not conclude that women can compete on par with men in elite athletic activities that prohibit the use of technology, but that women can meet the physical standards of an occupation if required.<sup>62</sup> Additionally, safety measures put into place lessen physical requirements and reduce injuries for both men and women in various occupations—such as 50-pound luggage limitations for luggage porters or heavy-lifting belts for construction workers. The fact that there may only be a small number of women that are capable or even seek a certain occupation does not justify discrimination.

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<sup>60</sup> Owen Matthews and Anna Nemstova, "The Kremlin Vigilantes," *Time Magazine* (February 23, 2009): 36.

<sup>61</sup> Ibid.

<sup>62</sup> Some athletic activities including the use of technology that demonstrate a negligible difference between men and women are sport shooting, fishing, race car driving, and horsing racing. Athletic activities that do not include technology are running and heavy lifting. For examples of athletic world record progressions for men and women, see International Association of Athletics Federation, *12th IAAF World Championships In Athletics: IAAF Statistics Handbook. Berlin 2009* (Monte Carlo: IAAF Media & Public Relations Department, 2009), 207 and 227. Some of these world record progressions demonstrate that today's elite female athlete can exceed the elite male athlete of yesterday because of new knowledge and technology, and, more importantly, the ability to compete. To demonstrate that women can exceed occupational physical standards, the three mile run is considered because the U.S. Marine Corps uses it as a physical standard. The minimum standard for males to run three miles is 33 minutes and the maximum standard for score is 18 minutes—a physically fit woman can easily meet the minimum standard and many have demonstrated the ability to exceed the maximum standard for score. Yet instead of equal standards and opportunities, women in the U.S. Marine Corps are scored and treated differently.

Current legislation concerning job discrimination against women is in direct violation of *The Constitution of the Russian Federation*. Article 19, Section 3 declares that “Man and woman shall have equal rights and liberties, and equal opportunities for their pursuit.”<sup>63</sup> Additionally, Article 37 Section 1 states that “Work shall be free. Everyone shall have the right to make free use of his or her abilities for work and to choose a type of activity and occupation.”<sup>64</sup> *The Code of Labor Laws of the Russian Federation* specifically states that employers shall provide equal pay for equal work.<sup>65</sup> Because of these national proclamations of equality, this thesis assumes that gender equality in the workplace is possible and develops positive economic models without regard to the patriarchal nature of the Russian Federation.<sup>66</sup> This assumption is critical because this work is not social commentary on women’s rights; it is an analysis of opportunity costs due to job discrimination.

### **3. Demographic Transition**

There are typically four stages to demographic transition: (1) high fertility and mortality, (2) declining mortality, (3) declining fertility, and (4) a stationary or stable population.<sup>67</sup> Evidence indicates that the Russian Federation is currently in stage 3—declining fertility. Some experts argue that there is a fifth stage called “sub-replacement fertility” where there are higher death rates than birth rates and that is the stage that the Russian Federation is experiencing, however, this has the same net effect as stage 3. There were three instances of severe depopulation in Russia within the twentieth century: the First World War (1914–1918), the famines and purges of the 1930s, and the Second World War (1941–1945). When these social and military disasters ended, the population

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<sup>63</sup> Government of the Russian Federation, *Constitution of the Russian Federation* (Moscow: 1993), Art. 19, Sect. 3.

<sup>64</sup> Ibid., Art. 37, Sect. 1.

<sup>65</sup> Government of the Russian Federation, *Labor Code of the Russian Federation*, Art. 21, Sect. 1.

<sup>66</sup> Some areas in Russia, such as the Caucasus Region—where the population is primarily Muslim—have strict religious codes that restrict women’s freedoms far beyond the scope of this thesis. This thesis is only addressing women’s labor force participation on the national level.

<sup>67</sup> Nafziger, Economic Development, 277.

increased.<sup>68</sup> However, the Russian fertility rate never returned to pre-disaster levels and the population, as a consequence, began to decrease.<sup>69</sup> The next section of this chapter examines the details of the current stage of Russian demographic transition—particularly fertility, infant mortality, mortality, life expectancy, and population distribution rates.

### C. RUSSIAN FEDERATION'S DEMOGRAPHIC CRISIS

Currently, there are approximately 142 million people in the Russian Federation.<sup>70</sup> This number indicates a decline of about six million people since the fall of the Soviet Union.<sup>71</sup> Still, the Russian Federation is not the only country experiencing a demographic crisis. Aging populations, high mortality, excessive emigration, and low birth rates are a common trend among most contemporary European nations—especially former Warsaw Pact nations.<sup>72</sup> In the Russian Federation, the numbers of deaths exceed births and—without a liberal immigration policy to mitigate the net loss—is the integral reason for the country's demographic crisis. Sixteen years prior to the fall of the Soviet Union, births exceeded deaths by over 11 million whereas, in the 16 years following the Soviet era, deaths exceeded births at an approximately similar rate.<sup>73</sup> Figure 1 displays the recent dynamics of birth to death rate in the Russian Federation.

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<sup>68</sup> Anatoly Vishnevsky and Sergey Bobylev, “Russia Facing Demographic Challenges,” National Human Development Report Russian Federation 2008 (Moscow: City Print, 2009), 18.

<sup>69</sup> Ibid.

<sup>70</sup> Russian Federation Federal State Statistics Service, “Resident Population,” *Federal State Statistics Service* (Moscow: 2009), [http://www.gks.ru/bgd/regl/b09\\_12/IssWWW.exe/stg/d01/05-01.htm](http://www.gks.ru/bgd/regl/b09_12/IssWWW.exe/stg/d01/05-01.htm).

<sup>71</sup> Curtis, Russia: A Country Study, “Population.”

<sup>72</sup> Nicholas Eberstadt, “Russia’s Peacetime Demographic Crisis: Dimensions, Causes, Implications,” NBR Project Report, (Seattle, WA: The National Bureau of Asian Research, 2010), 18.

<sup>73</sup> Ibid., 12.

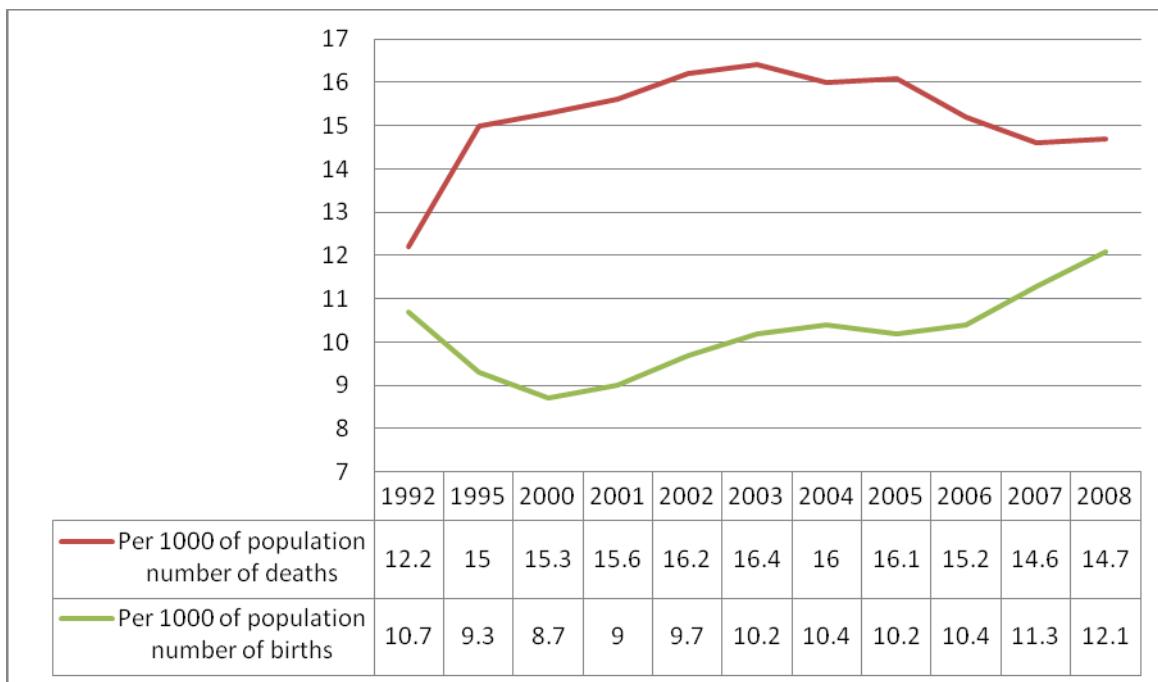


Figure 1. Births and Deaths<sup>74</sup>

The net result is depopulation as displayed in Figures 2 and 3.

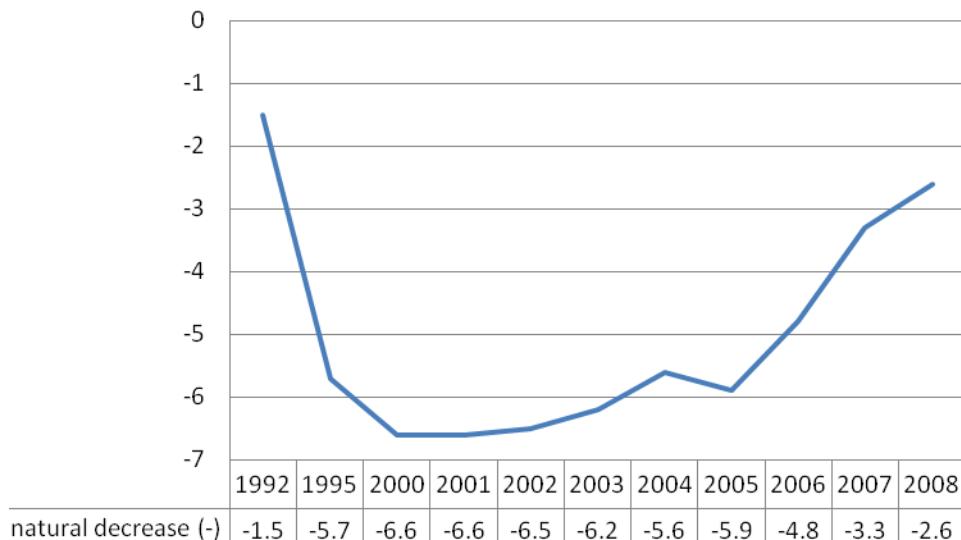


Figure 2. Net Decrease per 1000 People<sup>75</sup>

<sup>74</sup> Russian Federation Federal State Statistics Service, "Population."

<sup>75</sup> Ibid.

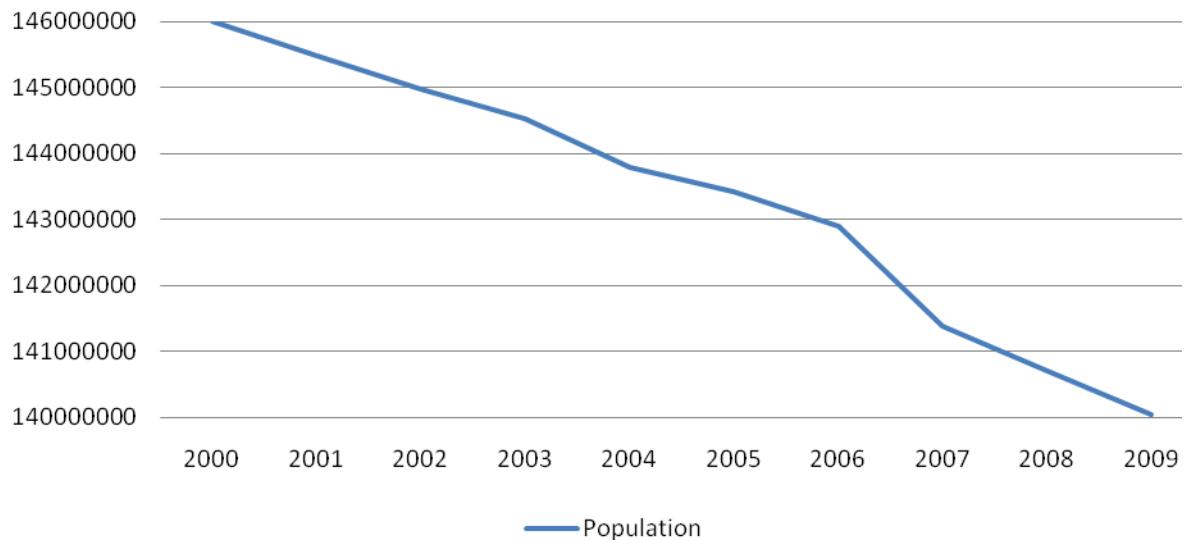


Figure 3. Total Russian Population<sup>76</sup>

Russia is losing approximately 750,000 people every year.<sup>77</sup> Moreover, Figure 4 is the age distribution of Russian Federation's population as of January 1, 2008. There is an apparent dip of persons in their early to mid-seventies that would coincide with lowered birthrates due to the famines and purges of the 1930s. Next, there is a severe drop of persons in their early sixties that were born during the Second World War (1940s)—their parents were born circa the First World War. Approximately 20 years later (1960s), as that generation reaches reproduction age, there is a significant decline in population. Another dip occurs approximately 25 years later (1980s) as that smaller generation postpones having children. The dissolution of the Soviet Union, another catastrophic event upon the population, presents uncertainty that discourages child-bearing while increasing reckless behavior. The country's government and decaying health care system are unable to adequately address either problem resulting in higher

<sup>76</sup> Russian Federation Federal State Statistics Service, "Population."

<sup>77</sup> Murray Feshbach, "Russia's Population Meltdown," *The Wilson Quarterly* (Winter 2001): 15.

mortality rates and lowered life expectancies. Thus, the death rates exceed birth rates and the population continues to decrease. The current demographic crisis is the longest period of depopulation in modern Russian history.<sup>78</sup>

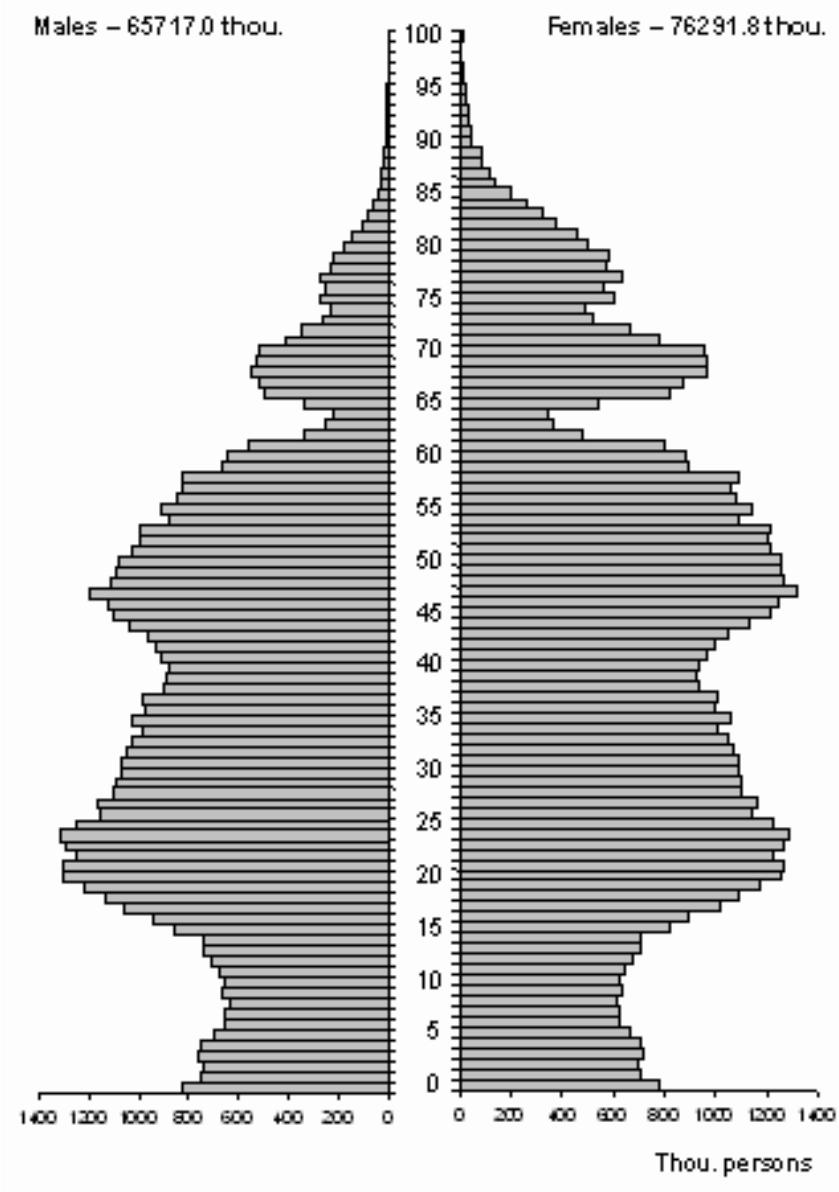


Figure 4. Age Distribution of Russian Population<sup>79</sup>

<sup>78</sup> Eberstadt, “Russia’s Peacetime Demographic Crisis,” 9.

<sup>79</sup> Russian Federation Federal State Statistics Service, “Population.”

## 1. Fertility Rate

Fertility rate is the average number of children a woman of child-bearing age will have at the current birthrate. The estimated minimum replacement fertility rate in Russia is approximately 2.1 births per woman.<sup>80</sup> However, some experts, such as Murray Feshbach, estimate that the minimum replacement fertility rate should be as high as 2.5 births per woman due to the soaring death rate.<sup>81</sup> Regardless, by 1964, the net reproduction rate dropped below 1.0 as the total fertility rate (TFR) failed to replace the older generations.<sup>82</sup> It appears that the Soviet program of rapid industrialization and urbanization led to the drastic changes in birth and fertility rates that altered the demographic dynamics of subsequent Russian generations. Russia had become a victim of the Demographic-economic Paradox where there is an inverse correlation between wealth and fertility rates. According to the theory, these newer Russian generations had much lower fertility rates due to more education, greater wealth (higher standard of living), and urbanization. Long periods of time spent getting higher education resulted in more women waiting to have children later in life. Additionally, abortions were easily accessible, whereas contraceptives were not. Costs associated with child-rearing made the termination of unwanted pregnancies commonplace, especially after the Russian abortion ban was lifted in 1968.<sup>83</sup> Moreover, urbanized populations normally have lower fertility rates than rural populations; this could be due to the education availability and better

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<sup>80</sup> Vishnevsky and Bobylev estimate 2.1 births per woman. Vishnevsky and Bobylev, “Russia Facing Demographic Challenges,” 18. The Russian government estimates 2.15 births per woman. Government of the Russian Federation, “Concept of Population Policy of The Russian Federation for the Period Until 2015.”

<sup>81</sup> British Broadcasting Company, “Russian Population in Steep Decline,” *BBC News*, October 24, 2000, <http://news.bbc.co.uk/2/hi/europe/988723.stm>.

<sup>82</sup> Vishnevsky and Bobylev, “Russia Facing Demographic Challenges,” 18.

<sup>83</sup> Curtis, “Abortion.”

access to birth control.<sup>84</sup> While evidence shows that the Demographic-economic Paradox continues to a point and then recovers to the replacement rate, the Russian Federation has yet to revisit that benchmark.

With regards to the fertility rate, women 18–29 years old are considered at their reproductive peak because they account for 75 to 85 percent of births. In Russia, this demographic group was growing but has started to decline. This decline is projected to contribute to a depopulation of over 2.5 million by 2015 and 5.5 million by 2025.<sup>85</sup> While this demographic population simply may be postponing child-bearing until their thirties as a result of new socio-economic conditions, they unfortunately suffer from increased risk of sexually transmitted diseases that result in infertility. Feshbach states that approximately 15 percent of the Russian population is infertile due to sexually transmitted diseases—another extenuating factor in the lowered birth and fertility rates of Russia.<sup>86</sup>

Figure 5 clearly displays that there are two 20-year spans below the estimated minimum replacement rate with only a short three-year stint between them. In consequence, there are two generations of Russians that will most likely contribute to the country's depopulation unless their birth rate significantly exceeds the replacement rate, which is improbable.

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<sup>84</sup> Murray Feshbach offers an alternative reason for the lowered fertility rates in Russia: due to decades of environmentally unsafe practices, spontaneous abortions or miscarriages exceed 15 percent of conceptions. Instead of focusing efforts on female empowerment, he believes, that to mitigate the demographic crisis, policies should address the weak Russian health care system and environmental clean-up. However, this thesis focuses on the macroeconomic consequences of job discrimination against women and not the cause or remedy of the demographic crisis. Therefore, this thesis focuses on the correlation of the Demographic-economic Paradox. Feshbach, “Russia’s Population Meltdown,” 15–21.

<sup>85</sup> Vishnevsky and Bobylev, “Russia Facing Demographic Challenges,” 23.

<sup>86</sup> Feshbach also criticizes Russian policies that imprison people that contract STDs through drug use. He claims that this discourages people from seeking medical attention for their STDs and contributes to the rising infertility. British Broadcasting Company, “Russian Population in Steep Decline.” While a significant contributor to the Russian demographic crisis, lack of self-reporting STDs/infertility and inconsistent statistical data—such as married couples versus cohabiters or men versus women—make it impractical for this thesis to further explore the impact of infertility. However, as a comparison, approximately eight to 12 percent of couples worldwide and one in four ever-married women in developing countries experience infertility during their reproductive life. World Health Organization, “Infertility,” *World Health Organization: Reproductive Health*, May 2010, <http://www.who.int/reproductivehealth/topics/infertility/en/index.html>.

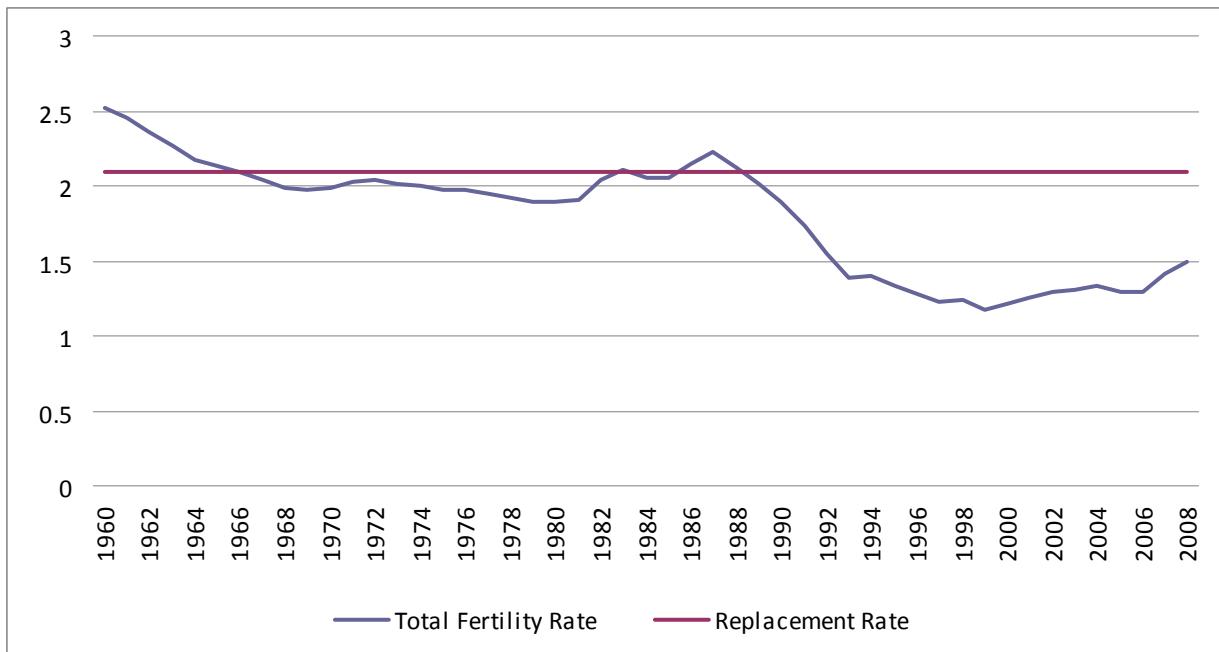


Figure 5. Total Fertility Rate Trends in Russia<sup>87</sup>

## 2. Mortality Rate

In addition to the low fertility rate, Russia has a high, and for some parts of the population, growing mortality rate, especially when compared to other developed countries. Eberstadt and Shah assert that Russia's demographic crisis is rooted in its high mortality rate vice its fertility or birth rate.<sup>88</sup> This high mortality rate is often attributed to high rates of alcohol and tobacco use among males; unsafe work, home, and road conditions; and insubstantial health services.<sup>89</sup> To put these factors into perspective, 18.2 percent of male deaths are the result of external causes of death, whereas cancer claims only 13.25 percent of men's lives.<sup>90</sup> Moreover, Russia has one of the highest suicide rates in the world. According to the World Health Organization, during 2008, approximately

<sup>87</sup> Russian Federation Federal State Statistics Service, "Population."

<sup>88</sup> Nicholas Eberstadt and Apoorva Shah, "Russia's Demographic Disaster," AEI Special Report: Russian Outlook (Washington D.C.: American Enterprise Institute for Public Policy Research, May 2009), 2.

<sup>89</sup> Cutis, Russia: A Country Study, "Mortality."

<sup>90</sup> Vishnevsky and Bobylev, "Russia Facing Demographic Challenges," 64.

58.1 Russian males and 9.8 Russian females per 100,000 committed suicide.<sup>91</sup> That is approximately 81,000 males lost in 2008 alone and an average of well over 60,000 for the last 15 years.<sup>92</sup> Some experts link alcohol and suicide deaths. Regardless, the relevant issue is that Russian males die young and, most often, as a result of external factors that could be mitigated. Table 1 and Figure 3 display the significant trends in the causes of Russian deaths.

Table 1. Causes of Death Distribution (per 100,000)<sup>93</sup>

	1992	1995	2000	2002	2003	2004	2005	2006	2007	2008	2009
<b>Total deaths by all causes</b>	<b>1217</b>	<b>1498</b>	<b>1529</b>	<b>1617</b>	<b>1644</b>	<b>1596</b>	<b>1610</b>	<b>1521</b>	<b>1464</b>	<b>1467</b>	<b>1420</b>
Diseases of circulatory system	647	791	846	907	928	895	908	865	834	833	797
Neoplasm	202	203	205	203	203	202	201	201	203	203	206
Accidents, poisonings and injuries	173	237	219	235	234	227	221	199	183	165	150
- Transport injuries (all types)	30	26	27	29	30	29	28	27	28	25	21
- Alcohol poisonings	18	30	26	31	31	30	29	23	18	14	12
- Suicides	31	41	39	38	36	34	32	30	29	27	26
- Homicides	23	31	28	31	29	27	25	20	18	17	15
Diseases of respiratory system	58	74	70	70	71	65	66	58	55	55	55
Diseases of digestive system	33	46	44	52	57	59	66	63	62	63	62
Infectious and parasitic diseases	13	21	25	26	26	26	27	25	24	24	23

<sup>91</sup> World Health Organization, “Suicide Rates by Country, Year, and Sex (Table),” *World Health Organization: Mental Health*, [http://www.who.int/mental\\_health/prevention/suicide\\_rates/en/](http://www.who.int/mental_health/prevention/suicide_rates/en/).

<sup>92</sup> Ibid.

<sup>93</sup> Russian Federation Federal State Statistics Service, “Population.”

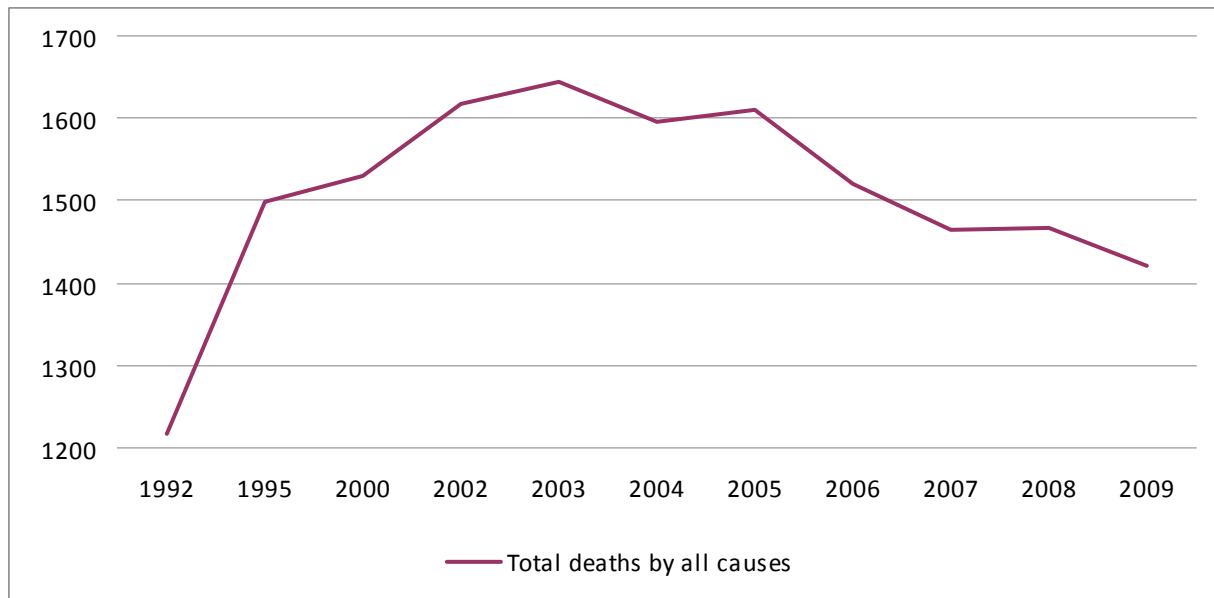


Figure 6. Trend of Total Deaths by Cause (per 100,000)<sup>94</sup>

### 3. Infant Mortality

Infant mortality is normally considered the number of infant deaths under one year old per 1,000 births. The Russian Federation has a relatively high infant mortality rate for a developed nation. However, a majority of these infant deaths are related to a lack of health services in rural areas and poor prenatal care. In 2009, the Russian Federation's infant mortality declined to its lowest reported point of 8.9 deaths per 1000, which is still significantly high compared to other developed nations.<sup>95</sup> However, because of advancements in medical technology and recent increases in health care availability, the Russian Federation should be able to improve its infant mortality rate even further to place them on par with the rest of the industrialized world. Figure 4 demonstrates the positive trend in the Russian declining infant mortality rate.

<sup>94</sup> Russian Federation Federal State Statistics Service, "Population."

<sup>95</sup> United States Central Intelligence Agency, *CIA World Factbook*.

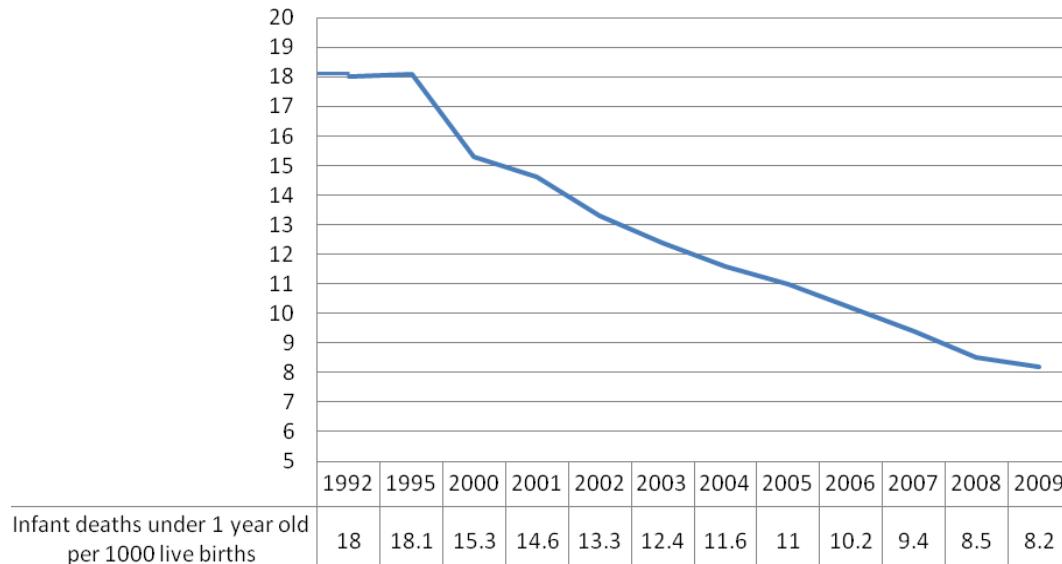


Figure 7. Infant Mortality per 1000 Births<sup>96</sup>

#### 4. Population Distribution

The average age of Russians is increasing, which will lead to a decline in the worker pool. Since the dissolution of the Soviet Union, the median age of the population has increased by six years and is expected to increase another six years to an average median age of 44 before 2030.<sup>97</sup> Additionally, women aged 15–65 make up 37 percent of the total population, whereas men aged 15–65 equate to only 34 percent of the total population.<sup>98</sup> This decline in the pool of workers translates to increased competition for military age males in all sectors of the economy. Table 2 delineates the population distribution by age, gender and eligible working age.

<sup>96</sup> The *CIA World Factbook* reports that the Russian infant mortality rate for 2009 is 10.32 per 1,000 live births. This discrepancy is most likely due to differences in reporting standards. Russian Federation Federal State Statistics Service, “Population.”

<sup>97</sup> Eberstadt, “Russia’s Peacetime Demographic Crisis,” 204 and 207.

<sup>98</sup> United States Central Intelligence Agency, *CIA World Factbook*.

Table 2. Population by Age Groups per 100,000 (beginning of the year)<sup>99</sup>

	Thou. persons			Percentage of total			Females per 1000 males of given age		
	2001 <sup>1)</sup>	2006	2008	2001	2006	2008	2001	2006	2008
<b>Total population</b>	<b>146304</b>	<b>142754</b>	<b>142009</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>1141</b>	<b>1158</b>	<b>1161</b>
including by age of, years:									
0-4	6367	7037	7449	4.4	4.9	5.2	950	949	947
5-9	7762	6418	6481	5.3	4.5	4.6	955	954	954
10-14	11789	7790	6894	8.1	5.5	4.9	961	957	957
15-19	12322	11825	10207	8.4	8.3	7.2	966	964	961
20-24	11106	12405	12764	7.6	8.7	9.0	983	978	976
25-29	10451	11049	11475	7.1	7.7	8.1	985	1002	998
30-34	9620	10295	10493	6.6	7.2	7.4	997	1013	1021
35-39	11333	9417	9702	7.8	6.6	6.8	1025	1033	1030
40-44	12651	10949	9804	8.6	7.7	6.9	1055	1074	1074
45-49	11434	12054	11955	7.8	8.4	8.4	1104	1121	1123
50-54	9409	10645	10948	6.4	7.5	7.7	1157	1202	1203
55-59	4995	8590	9350	3.4	6.0	6.6	1287	1284	1293
60-64	8906	4407	4898	6.1	3.1	3.5	1421	1480	1428
65-69	5903	7609	6602	4.0	5.3	4.6	1591	1674	1718
70 and over	12256	12264	12987	8.4	8.6	9.1	2548	2452	2399
Out of total population:									
under working age	28387	23317	22497	19.4	16.3	15.8	958	954	953
working age <sup>2)</sup>	88040	90328	89752	60.2	63.3	63.2	982	961	954
over working age	29877	29109	29760	20.4	20.4	21.0	2174	2561	2600

Looking forward, there are approximately 549,822 more males aged 0–14 but the male life expectancy is currently only 59.33 years, whereas the female life expectancy is 73.14 years.<sup>100</sup> So, while males outnumber females at birth, women have lower mortality rates and outnumber the men simply because they live longer.

<sup>99</sup> Russian Federation Federal State Statistics Service, “Population.”

<sup>100</sup> United States Central Intelligence Agency, *CIA World Factbook*.

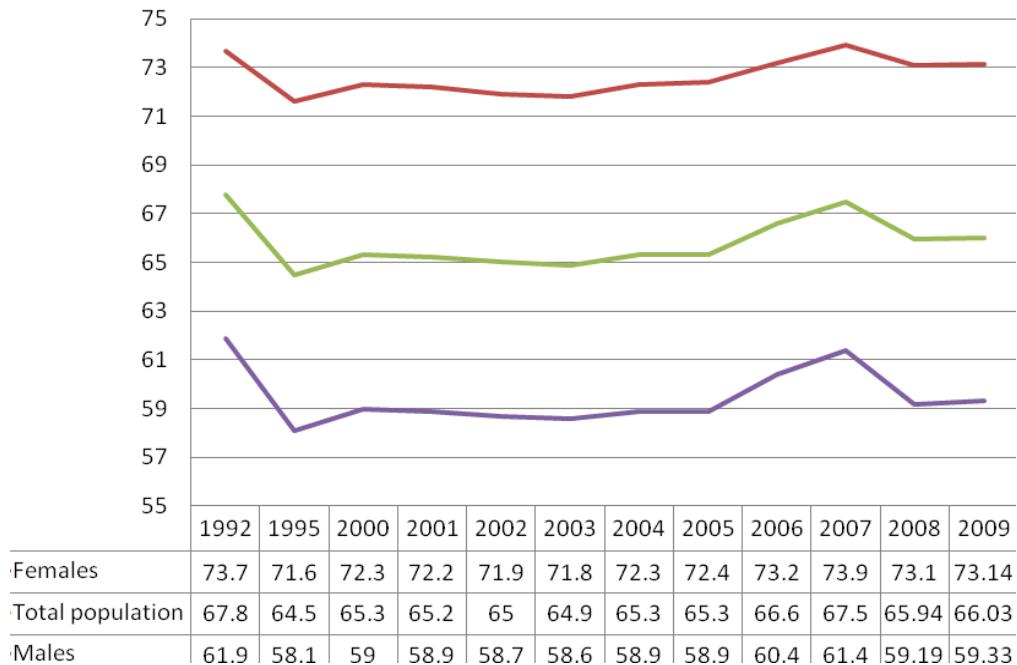


Figure 8. Life Expectancy<sup>101</sup>

The dramatic drop in life expectancy following the fall of the Soviet Union is attributed to the uncertain economic environment and excess mortality.<sup>102</sup> As the economic outlook improves, so should the life expectancy.

## 5. Implications

These unfavorable demographic trends have serious negative implications across the entire spectrum of Russian society. Figure 9 shows the upward trend of the working population as a percentage of the total population. This positive trend is only temporary as the Russian population continues to age or die young without replacement generations. As the Russian population decreases, the working population will be smaller than the non-working and dependent population. Even so, just slightly more than fifty-three and a half percent of the population supports the entire population.<sup>103</sup> A continually increasing

<sup>101</sup> Russian Federation Federal State Statistics Service, “Population.”

<sup>102</sup> Curtis, Russia: A Country Study, “Demographics.”

<sup>103</sup> Federal State Statistics Service, “Labor.”

dependency ratio requires more government resources for food, health care, and other social services. More importantly, these requirements may overwhelm the already strained Russian system, and it is the government's responsibility to manage that threat.

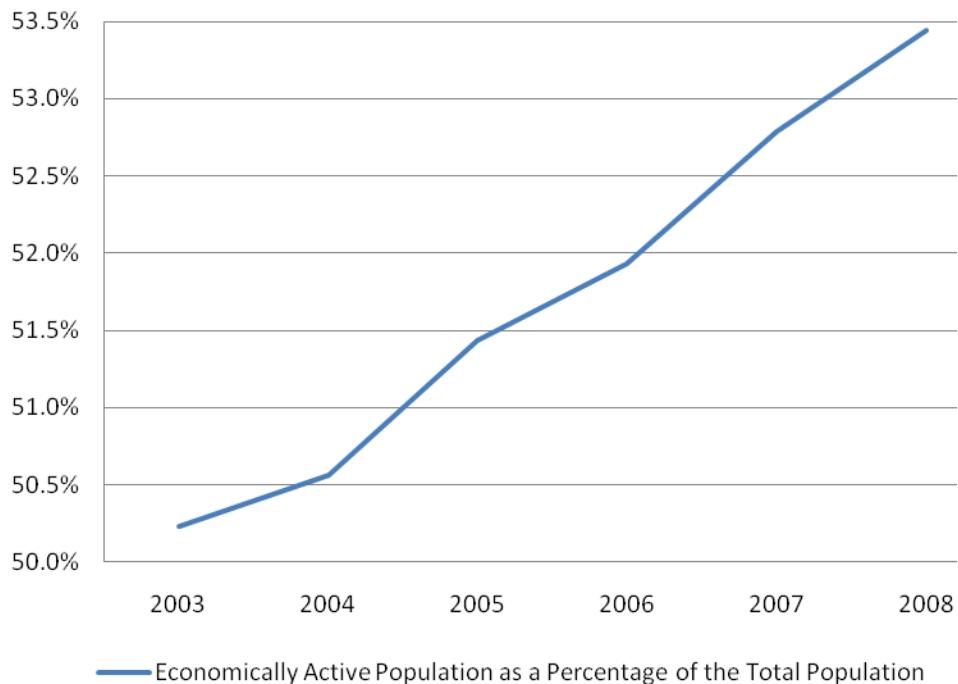


Figure 9. Economically Active Population as a Percentage of the Total Population<sup>104</sup>

The Russian Federation has proved that it can mitigate some of the problems associated with its depopulation via policy. For example, at the start of the 1980s, Soviet government officials began to implement policies to reverse some trends, specifically alcohol de-glamorization and generous maternity benefits. These policies contributed to a 3.1 year increase on the male life expectancy between 1985 and 1987, and similar benefits are seen from the newer alcohol restrictions in 2004.<sup>105</sup>

In 2006, to increase the fertility rate, the Russian government offered a bonus of 250,000 rubles (about \$9,200) to every woman that had a second child.<sup>106</sup> This policy might also have been intended to encourage marriage because, in 2000, every fourth child

<sup>104</sup> Federal State Statistics Service, "Labor."

<sup>105</sup> Vishnevsky and Bobylev, "Russia Facing Demographic Challenges," 67.

<sup>106</sup> Daniel Gross, "Children For Sale," *Slate*, March 24, 2006, <http://www.slate.com/id/2142366/>.

was born out of wedlock, and the Russian child-bearing population is abandoning matrimony altogether.<sup>107</sup> Russian demographer Sergei Zakharov warns that Russia will never return to its traditional pattern of marriage because today's population is older at their first nuptials, postpones child-bearing, divorces more often, and remarries less. He further asserts that cohabitation is increasingly common while family planning is at its most efficient—due to improved contraceptive availability.<sup>108</sup> In any case, economic commentator Daniel Gross explained that this one-time payment hardly offset the cost of rearing a child, and that a bleak economic climate, low wages, short life expectancy, and weak rule of law discourage large families. Moreover, this incentive was not cash: it took the form of vouchers for child-rearing expenses. He stated that the best incentive for increased family size was improved economic outlook.<sup>109</sup> Thus, because of changing social norms, improving economic growth through policies aimed at increasing the population is inefficient whereas efforts to reform labor policies may prove to be more productive in improving the economy and demographics of Russia. Regardless, Russian politicians feel that increased birth rates and inevitable increases in life expectancy (because of improved health access and policies aimed at life preservation) will subdue the demographic crisis.<sup>110</sup>

#### **D. RUSSIAN FEDERATION'S ECONOMIC CRISIS**

Since the dissolution of the Soviet Union, Russia has attempted to shift from a globally-isolated, centrally-planned economy to a globally-integrated, market-based economy.<sup>111</sup> Roughly half the size of the former Soviet economy, the Russian economy has abundant natural resources and a highly educated labor force.<sup>112</sup> However, Russia's

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<sup>107</sup> Government of the Russian Federation, "Concept of Population Policy of The Russian Federation for the Period Until 2015."

<sup>108</sup> Sergei V. Zakharov, "Recent Trends in First Marriage in Russia: Retarded Second Demographic Transition," Scientific Paper (Russian Academy of Sciences: Moscow, 2005), 2.

<sup>109</sup> Daniel Gross, "Children For Sale."

<sup>110</sup> Eberstadt, "Russia's Peacetime Demographic Crisis," 284.

<sup>111</sup> United States Central Intelligence Agency, *CIA World Factbook*.

<sup>112</sup> Curtis, *Russia: A Country Study*, "Economy."

infrastructure is deteriorating, and it is inefficient in utilizing its resources.<sup>113</sup> Since 1991, the Russian Federation experienced political and economic uncertainty that resulted in a recession, lowered living standards, and increased corruption.<sup>114</sup> Moreover, while the Russian labor force is highly educated, the Soviet central planning's emphasis on technical expertise—such as engineering, mathematics, and sciences—left a legacy of gaps in management and entrepreneurial skills that are integral to the service sector of an effective, modern market economy.<sup>115</sup> A reliance on commodity exports—due to its abundant natural resources, specifically natural gas and oil—has left Russia vulnerable to the highly volatile swings in the global commodities market.<sup>116</sup> After the financial crisis in 1998, Russia's Finance Minister took excess oil tax revenues to establish a stabilization fund to prevent another financial crisis in the future. His prudence helped to prevent extreme devaluation of the ruble during the economic crises of the 2000s.<sup>117</sup> As of late 2009, Russia has started to recover from the global recession and expects economic growth in 2010.<sup>118</sup>

### **1. Macroeconomic Growth**

The Gross Domestic Product (GDP) is the total market of goods and services produced by an economy during a specified time period. Since the GDP considers the total market of an economy, it is a useful macroeconomic indicator of the overall health of an economy.<sup>119</sup> From the end of the Russian financial crisis in 1998 to the global economic downtown in 2008, Russia had experienced approximately seven percent annual GDP growth.<sup>120</sup> Figure 9 displays the trends in Russian Federation's GDP since 2000.

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<sup>113</sup> Curtis, Russia: A Country Study, "Economy.".

<sup>114</sup> United States Central Intelligence Agency, *CIA World Factbook*.

<sup>115</sup> Curtis, Russia: A Country Study, "The Labor Force."

<sup>116</sup> United States Central Intelligence Agency, *CIA World Factbook*.

<sup>117</sup> Ibid.

<sup>118</sup> Ibid.

<sup>119</sup> This thesis will not use the Gross National Product (GNP) in its analysis because the GNP considers income from outside the Russian Federation. Since this thesis is focused on employment discrimination inside the Russian Federation, GNP is extraneous.

<sup>120</sup> United States Central Intelligence Agency, *CIA World Factbook*.

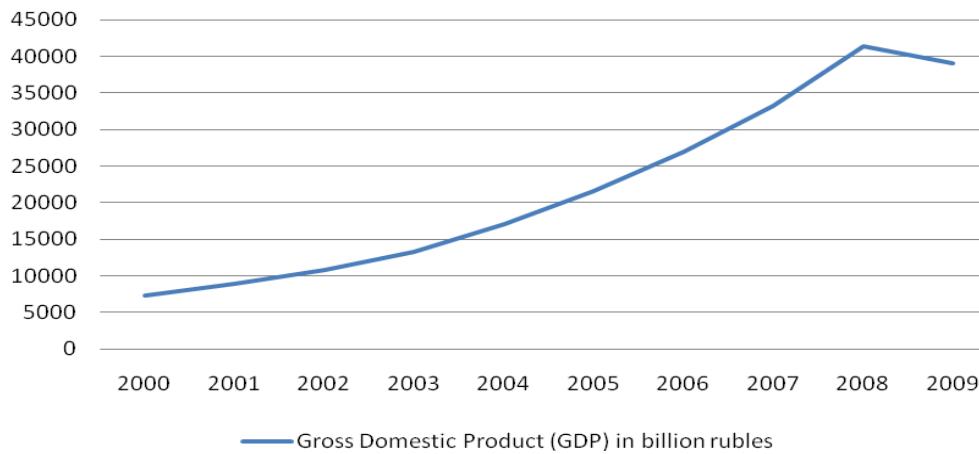


Figure 10. Gross Domestic Product Trends<sup>121</sup>

## 2. Unemployment

The former Soviet government guaranteed full employment as one of its core ideological tenets. This guiding principle provided security during times of economic uncertainty and high unemployment in the West. However, Leonard Silk documented that there was a big wastage of labor in the Soviet Union. He claimed that the Soviet communist system produced “a sour and corrupt or semi-corrupt national mood.”<sup>122</sup> As the Russia transitioned from the Soviet economy to a market economy, the full employment guarantee was negated. Interestingly, unemployment rates did not skyrocket as predicted.<sup>123</sup> Instead, Russian workers continued to work even when they did not get paid. Observers theorize that the communal culture influenced Russians to keep working and that they would get the pay in arrears.<sup>124</sup> Unemployment rates reached their high during the Russian financial crisis of 1998.

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<sup>121</sup> Federal State Statistics Service, “Production.”

<sup>122</sup> Silk, *Economic in the Real World*, 236.

<sup>123</sup> Dennis Donahue, “The Future of Work in Russia: Population Projections and the Labor Force,” *Population Association of America Annual Meetings* (Boston, MA, 2004), 6.

<sup>124</sup> Ibid. However, these observers overestimate the communal nature and disregard the fact that other benefits, such as health care, housing, or factory stores, were tied to a Russian’s job and a key motivator for them to keep working. Still, reasons for the stable unemployment rate during the government transition from a command economy to a market economy are outside the scope of this thesis.

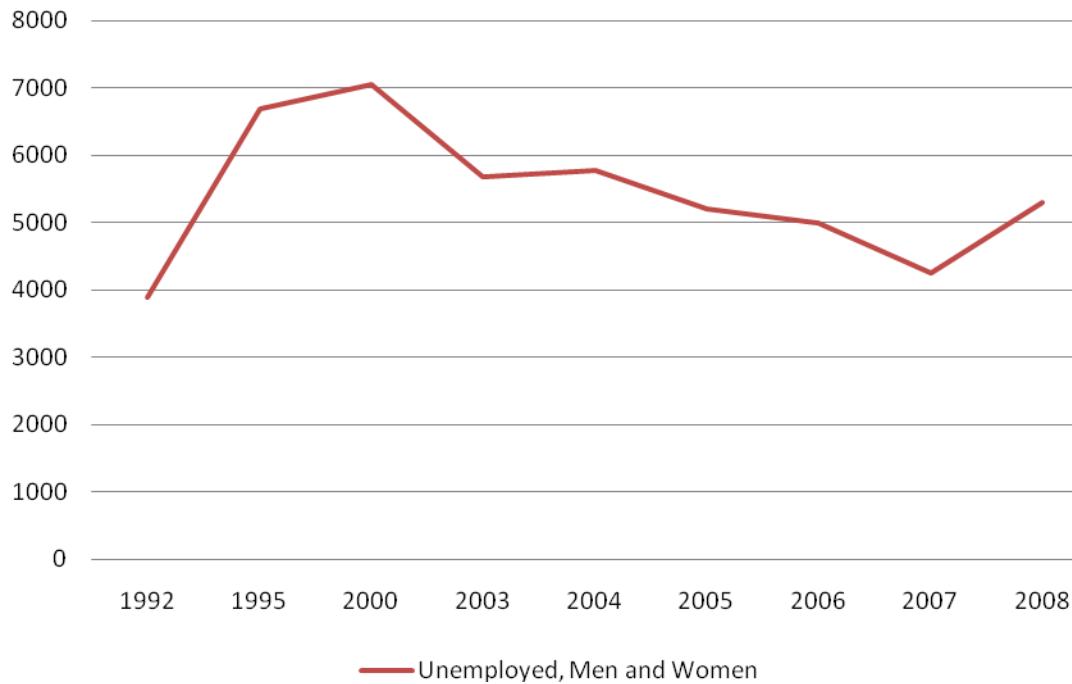


Figure 11. Unemployed, Men and Women (in thousands)

As a result of gender discrimination and spendthrift companies that do not want to pay maternity or childcare benefits, women are often not hired and are the first fired.<sup>125</sup> Additionally, despite more education than their male counterparts, women stay unemployed twice as long as men.<sup>126</sup> As a result—despite the overall population maintaining relatively stable unemployment rates—Russian women suffer high unemployment rates as displayed in Figure 12.

<sup>125</sup> Curtis, *Russia: A Country Study*, “Role of Women.”

<sup>126</sup> Ibid.

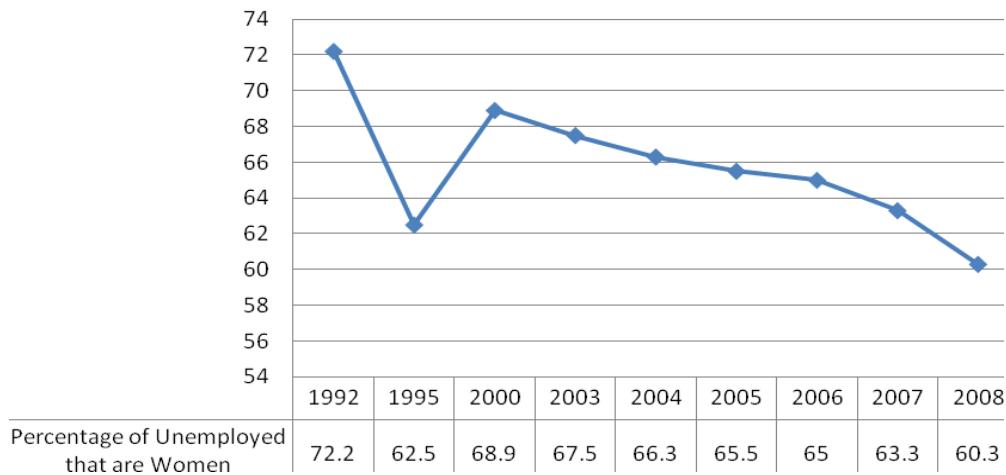


Figure 12. Percentage of Unemployed that are Women<sup>127</sup>

### 3. Income Gap

In part, because of the constrained labor market that discriminates against women in Russia, women continue to earn less than men. Many studies have explored the wage gap between men and women in a variety of settings. Results indicate that there are positive effects to closing the wage gap. In addition to increased GDP, studies in Bangladesh, Côte d'Ivoire, and Brazil demonstrate that more money in the hands of women have a larger positive effect on the economy than in the hands of men by significantly increasing child survival rates and health.<sup>128</sup> However, social norms add a layer of complexities that prevent realization of income equality. Barry Chiswick explains that social expectations, such as marriage or child-birth, reduce the human capital investment and labor force participation among women, which result in lower earning power relative to men.<sup>129</sup>

<sup>127</sup> Federal State Statistics Service, "Labor."

<sup>128</sup> World Bank, "Engendering Development: Through Gender Equality in Rights, Resources, and Voice," World Bank Policy Research Report (New York: Oxford University Press, 2001), 9.

<sup>129</sup> Barry R. Chiswick, "The Economics of Discrimination," in *The New Economics of Human Behavior*, ed., Mariano Tommasi and Kathryn Ierulli (New York: Cambridge University Press, 1995), 23–24.

#### **4. Implications**

The Russian economy continues to be in flux. Its poor infrastructure leads to inefficient resource utilization and the two recent economic crises demonstrate the need for sound economic policies. Since the fall of the Soviet Union, the Russian government incessantly tinkers with economic policies to provide growth and stability. Conservative measures, such as establishing a stabilization fund, have proven effective, but Russia still has a long way to go to catch up to the modern Western economies. If Russia cannot compete economically, its security, stability, and international esteem are threatened.

#### **E. CONCLUSION**

The Russian Federation is experiencing two significant crises—demographic and economic. Policies aimed at addressing one crisis have secondary effects on the other crisis. Regardless of its government’s efforts, Russia will endure depopulation in the foreseeable future. This shift in demography has negative consequences for the economy—mostly as a labor shortage. However, the negative consequences of this labor shortage could be mitigated. There are many courses of action. For instance, immigration could be more permissive, working ages expanded, infrastructure enhanced, or productivity improved. This thesis explores the effects of a more permissive labor market for women. What if the Russian Federation did away with its job discrimination policies and permitted women to work whatever job that they could qualify for? Positive economic models are used to answer “what if” questions. The next two chapters will examine a few outcomes that could result from the elimination of job discrimination against women in Russia.

### **III. STRUCTURAL UNEMPLOYMENT**

#### **A. INTRODUCTION**

One significant macroeconomic consequence of job discrimination against women in Russia is structural unemployment. Basically, women are unable to fill jobs simply because of their gender. While this thesis focuses on macroeconomic consequences, the utility function of an individual's labor is important to the overall macro economy. Utility function is the part of microeconomic theory that maintains that people are rational and will seek to maximize their individual utility. In the case of women, they must choose between maximizing income or reproductive utilities. In the Russian Federation, the government attempts to determine the utility for women through labor laws and demographic policies. The constraints placed upon women due to this top-down approach result in structural unemployment. This chapter demonstrates the legal precedent of structural unemployment in the Russian Federation with a recent court case that dismissed the issue of job discrimination against women. It uses a production possibilities curve to demonstrate the portion of the Russian labor force restricted in their job search due to the labor laws.

#### **B. CASE OF ANNA KLEVETS**

In November 2008, Russian law student Anna Klevets applied to be a metro train driver in St. Petersburg. She was denied the job because of her gender. She sued the metro train district and filed a petition to the Russian Federation Supreme Court to declare the RF Government Decree of 25 February 2000 N 162 discriminatory and, therefore, unconstitutional.<sup>130</sup> The RF Supreme Court dismissed the case.<sup>131</sup> Some

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<sup>130</sup> This Decree is also referred to as "The List of Heavy Work and Jobs with Harmful or Dangerous Conditions Prohibited to Women."

<sup>131</sup> While rule of law in the Russian Federation is relatively weak compared to other developed nations, this case demonstrates the courts' ability to enforce legislation—even with the act of dismissal. The request to rule a law unconstitutional was denied; therefore, the courts have determined that the regulation in question is constitutionally sound. Justification for the dismissal of this case was not available.

governmental officials viewed the ruling as the reasonable protection of women.<sup>132</sup> However, Moscow metro spokesperson, Svetlana Tsaryova, claimed that the rule prohibiting women from driving metro trains was an obsolete holdover from the Soviet Era. She asserted that the Moscow Metro was having a hard time finding sufficient drivers in 2008. Her statement identified that officials intended to appeal to higher authorities to accept women, but when the financial crisis began, male applicants increased—reducing the need for female drivers.<sup>133</sup> This statement supports the idea that discrimination against female metro train drivers is not based on any physical limitations. A current female driver, Natalya Kornieka, has driven a metro train on Moscow’s Sokolinky Line for over 30 years, and prior to the 1980s, female metro train drivers were common.<sup>134</sup> Despite these considerable exceptions, “metro train driver” is number 374 of the 456 jobs that are officially prohibited to women in Russia.<sup>135</sup>

Klevets claimed that she sought a job with the metro because it was a steady, well-paying position, and legal jobs were scarce. Around that time, the average metro train driver earned between 55,000 rubles (\$1700) and 70,000 rubles (\$2200) a month, while an assistant metro driver earned about 28,000 rubles (\$900) a month.<sup>136</sup> In 2009, the average monthly nominal accrued wage was 18,795 rubles (\$600).<sup>137</sup>

### C. PRODUCTION POSSIBILITIES CURVE

This economic model considers women’s ability to contribute to the workforce using a production possibilities curve. It shows the maximum feasible combinations of two possibilities for women’s contribution to the workforce: staying home up to 3.5 years to birth and care for children, and total years in the workforce. This specific model

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<sup>132</sup> Alexandra Odynova, “Court Upholds Ban on Female Drivers,” *Moscow Times*, May 22, 2009, <http://news.infoshop.org/article.php?story=20090531225620436>.

<sup>133</sup> Ibid.

<sup>134</sup> Associated Free Press, “Russia Bans Women Drivers...on the Metro,” *Expatica.Com*, August 3, 2009, [http://www.expatica.com/de/news/european\\_news/Russia-bans-women-drivers-on-the-metro-50309.html](http://www.expatica.com/de/news/european_news/Russia-bans-women-drivers-on-the-metro-50309.html).

<sup>135</sup> Government of the Russian Federation, “The List of Heavy Work.”

<sup>136</sup> Associated Free Press, “Russia Bans Women Drivers.”

<sup>137</sup> Russian Federation Federal State Statistics Service, “Average Monthly Accrued Wages.”

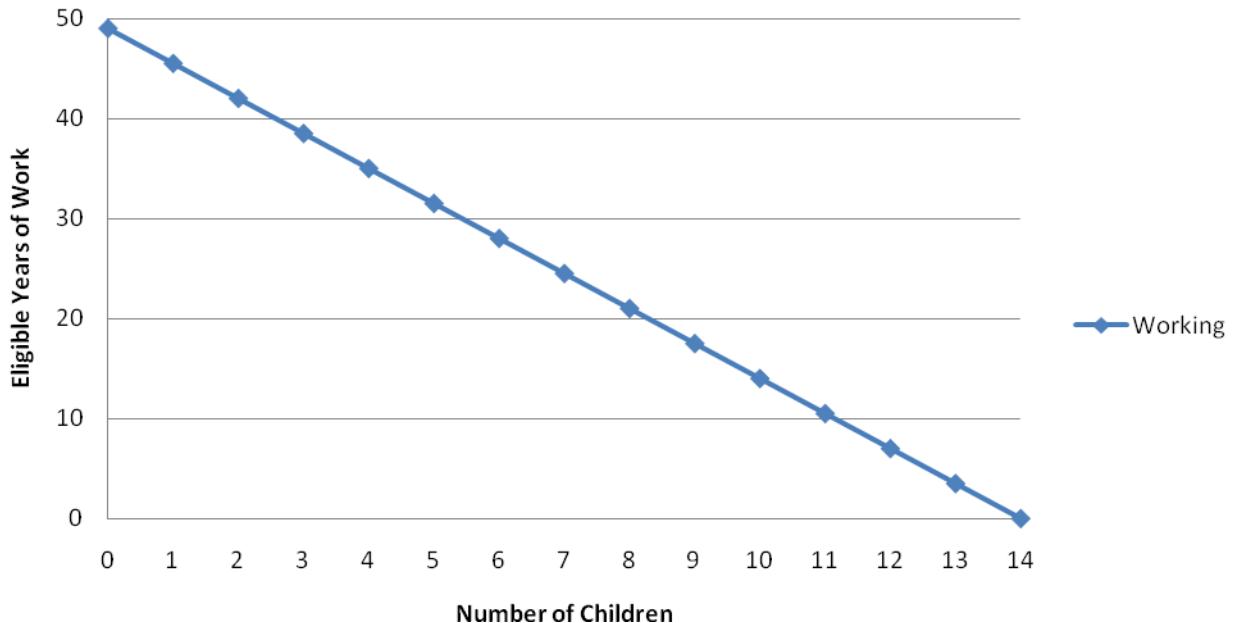
assumes: (1) that women are only capable of staying home to care for children under the age of three or working; (2) that at a given point, the Russian Federation has a fixed quantity of women; and (3) that all women are used in their most productive manner.

This possibilities curve considers the number of years in the workforce as opposed to the number of years a woman stays home to give birth and care for children. The current retirement age of a Russian woman is 55, whereas a man's retirement age is 60.<sup>138</sup> However, the Russian government recognizes both men and women ages 16–64 as part of their workforce. The data considers working years of Russian women (16–64 years). Thus, the maximum number of working years inside an equal working age is 48 years but only 39 if a woman takes the earlier sanctioned retirement. Ideally, a woman would only leave the workforce for seven and a half years to have two children and stay home for three years with each. This ideal is established because two children per women is the approximate minimum replacement rate, and the time outside the workforce considers two nine-month pregnancies and three years of the maximum legally protected child-rearing leave.<sup>139</sup> The entire gestation period is considered because if a woman were to chose to work in a dangerous or hazardous profession—upon realization that she is pregnant—she would be required to move to a “safe” or nonhazardous job that may or may not contribute to her professional growth.

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<sup>138</sup> Federation Federal State Statistics Service, “Population by Age Group.”

<sup>139</sup> Government of the Russian Federation, *Labor Code of the Russian Federation*, Ch. 41, Sec. 12.



### Years Out of Workforce Due to Childcare Leave

Thus, a woman that has two children can reasonably work 42 years and still care for her children until they are suitably in daycare. Forty-two years allows for a full career with a few career changes along the way.

Even at the early female retirement age of 55, a woman who left the labor force for seven-and-a-half years to have two children could complete a full career of approximately 30 years—minus any higher education. The macroeconomic benefits increase exponentially if the women’s retirement age was equal to that of Russian men—additional five years of productivity and fewer state benefits disbursed.<sup>140</sup> As it stands now, with a life expectancy over 73 years, the average Russian woman can expect to collect a retirement pension for approximately 18 years whereas the average Russian man has such a low life expectancy (not quite 60) that he is unlikely to even see retirement.<sup>141</sup> Therefore, it makes economic sense for the Russian government to promote equality

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<sup>140</sup> There are approximately 1,293,000 women aged 55–59. Federal State Statistics Service, “Population.”

<sup>141</sup> Mikhail Khmelev, “Russia Has Become a Nation of Pensioners,” *Terra Daily*, July 10, 2007, [http://www.terradaily.com/reports/Russia\\_Has\\_Become\\_A\\_Nation\\_Of\\_Pensioners\\_999.html](http://www.terradaily.com/reports/Russia_Has_Become_A_Nation_Of_Pensioners_999.html).

through equivalent retirement ages—even if a woman’s social security check is smaller than a man’s due to job and income inequality, the current system permits women to work fewer years and collect more benefits.

#### **D. CONCLUSION**

Restricting women’s job opportunities because they give birth seems counterproductive and counterintuitive, especially if she is a single mother. The opportunity cost is that 52.7 percent of the total Russian working population is ineligible for a job because of their gender and potential to take time off of work to care for children.<sup>142</sup> Eliminating job restrictions will substantially increase the pool of potential employees and enhance competition. For example, approximately nine percent of the Russian military are women, but they serve mostly in service and support roles.<sup>143</sup> Expanded use of women—including increasing their military retirement age—will further reduce the conscription burden and provide additional human capital growth.<sup>144</sup> Moreover, equal retirement ages will reduce the state’s social spending and improve the overall economy.

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<sup>142</sup> United States Central Intelligence Agency, *CIA World Factbook*.

<sup>143</sup> The military was chosen as an example because prior to the twentieth century, women did not serve in the Russian or Soviet armed forces because they were deemed unsuitable—similar to today. Thomas J. Andrea, “Russia’s Demographic Crisis and the Military: Strategic Impact and Security Implications in the 21st Century,” Civilian Research Paper (Carlisle Barracks, PA: U.S. Army War College, 2007), 23.

<sup>144</sup> *Ibid.*

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## IV. THE MAIN GENDER OF THE RUSSIAN WORKFORCE

### A. INTRODUCTION

In the hypotheses section of this thesis and in the literature review, it was predicted that if the Russian Federation had a more permissive labor market, the female labor market participation rates should increase. Interestingly, the current female labor market participation rates are close to male labor market participation rates even with the existing gender biases. Figure 11 displays the employment-to-population ratio (EPOP) of Russian men and women using data from the Federal State Statistics Service.

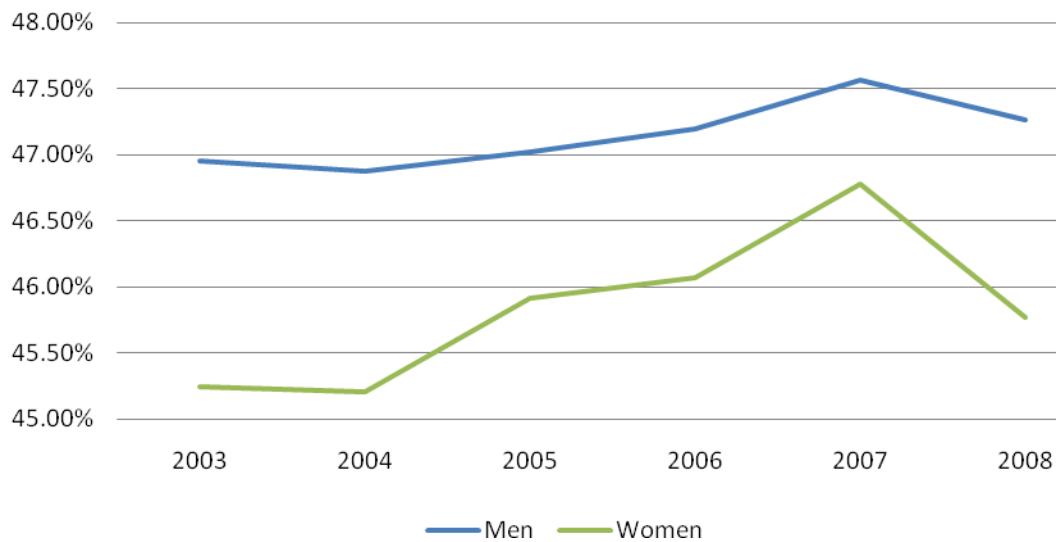


Figure 13. Employment-to-Population Ratio (EPOP)<sup>145</sup>

Excluding the agricultural sector, which is mostly seasonal, Russian working women actually outnumber the working men.<sup>146</sup> In 2007, women were approximately 51 percent of the Russian labor force whereas they were 50 and 47 percent of the labor

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<sup>145</sup> Federal State Statistics Service, "Labor."

<sup>146</sup> Ibid.

forces in Iceland and the United States, respectively.<sup>147</sup> These statistics are reasonable considering that Russian women outnumber men. This disproportionate male-to-female ratio requires more women to support themselves.

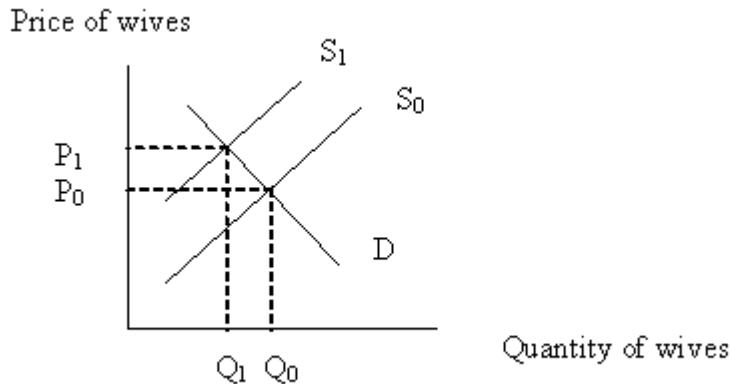
## **B. MARRIAGE MARKET MODEL**

Another way to look at the high Russian female labor participation rate is through marriage market models. In accordance with basic microeconomic theory, individuals marry because it benefits them more than being single. Gary Becker developed three marriage market models: (1) where men outnumber women, (2) where women outnumber men, and (3) where number of men and women are equal.<sup>148</sup> Figure 14 displays a marriage market model that applies to Russia.

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<sup>147</sup> Iceland ranked number one in the United Nations Human Development Index. The United Nations has drawn slightly different conclusions than the Federal State Statistics Service, most likely a result of different criteria. United Nations, *Millennium Development Goals Indicators*, 2010, <http://mdgs.un.org/unsd/mdg/Metadata.aspx?IndicatorId=0&SeriesId=758>.

<sup>148</sup> Soshana Grossbard-Shechman, “Marriage Market Models,” in *The New Economics of Human Behavior*, ed., Mariano Tommasi and Kathryn Ierulli, 100–103 (New York: Cambridge University Press, 1995).



P = Price of becoming a wife

S = Job opportunities

D = Desire to marry

Q = Quantity of women that will marry

Figure 14. Marriage Market Model—Opportunity Cost of Women<sup>149</sup>

Figure 14 demonstrates that as job opportunities for women improve, women are less likely to get married because the cost of marriage rises. Moreover, Russian women believe that their role in the family is more difficult than a man's.<sup>150</sup> This belief coincides with the marriage market models that indicate that if there are more women than men, men benefit from marriage whereas women do not.<sup>151</sup> Since, women will continue to outnumber men in the foreseeable future, marriages in Russia will continue to decrease and divorce rates will rise.

<sup>149</sup> Robert J Stonebraker, "The Untied Knot: Marriage on the Skids," *The Joy of Economics: Making Sense Out of Life*, February 15, 2010, [http://www.google.com/imgres?imgurl=http://faculty.winthrop.edu/stonebrakerr/book/book%2520images/SDofwives.gif&imgrefurl=http://faculty.winthrop.edu/stonebrakerr/book/marriage.htm&usg=\\_\\_fiL0X7DEYFCElztWjDCSiPJCO0=&h=241&w=478&sz=2&hl=en&start=26&um=1&it](http://www.google.com/imgres?imgurl=http://faculty.winthrop.edu/stonebrakerr/book/book%2520images/SDofwives.gif&imgrefurl=http://faculty.winthrop.edu/stonebrakerr/book/marriage.htm&usg=__fiL0X7DEYFCElztWjDCSiPJCO0=&h=241&w=478&sz=2&hl=en&start=26&um=1&it).

<sup>150</sup> Curtis, *Russia: A Country Study*, "Role of Women."

<sup>151</sup> Grossbard-Shechman, "Marriage Market Models," 103.

### **C. CONCLUSION**

Despite the evidence that the change in the social landscape is inevitable due to the gender ratios, the Russian government continues to implement policies and initiatives that place women in traditional gender roles without regard to the fact this is disadvantageous. Because women outnumber men and marriage is costly, the Russian government would do well to embrace the changing demographics and end job discrimination against women to permit a free labor market. Since individuals seek to maximize their utility function, in a completely free labor market, women will gravitate to the jobs that will benefit them the most—those with higher income and better benefits.

## **V. CONCLUSIONS AND RECOMMENDATIONS**

This thesis contends that the government of the Russian Federation will benefit more from policies that end job discrimination against women than policies aimed at trying to get women to embrace their traditional gender role as wife and mother in hopes that it will improve fertility rates. While Russia is enduring a demographic crisis, there are trade-offs between empowering women with equal job opportunity and high fertility rates, usually recognized as the Demographic-economic Paradox. While fertility rates are an important aspect of population growth, evidence indicates that the high mortality rate is the most detrimental to Russia's population growth rates. Thus, government policies to curb needless deaths will be more beneficial for the Russian population overall than attempts to increase fertility rates, especially in a depressed economic environment. Moreover, policies to ensure equal job opportunity will be more beneficial to Russia's economy than any policies that restrict women.

The Russian government has implemented or encouraged policies that result in structural unemployment. This structural unemployment directly contributes to high rates of poverty and reduced purchasing power parity. Additionally, the patriarchal preference in the public and private sector to establish men as the breadwinner conflicts with economic realities and exacerbates the structural unemployment. The Russian Federation needs to recognize that economic dependency upon men is not viable for a significant percentage of the population. Furthermore, attempts to maintain traditional stereotypes are failing because of the changing social landscape. For women, the costs of marriage exceed the benefits. As a result, the Russian Federation has seen a significant decrease in marriage and increase in divorce rates. Because of this reality, the government should ensure that employers do not disproportionately or unfairly dismiss women during any economic downturns or lay-offs. Accordingly, the legal restrictions placed upon women's employment should be repealed and the government should enforce a policy of equal pay.

The Russian Federation needs to re-conceptualize women's role in the labor force. Restricting women from professions solely based on childbirth and childcare leave costs approximately three to four decades of gainful employment per potential female

employee. While all women may not qualify for jobs or professions based on skills or physical abilities (strength), some women will. These women will increase the pool of eligible workers and the competition making for improved productivity.

To encourage stabilization of the fertility rate, job security for women choosing to leave the workforce for childrearing should be enforced as a public responsibility. Laws should be established so that a woman could take a leave of absence for several years and still have significant working years left to contribute productively. These laws could be similar to laws that protect men's jobs in case of a war draft. Of course, these laws and cultural shifts would take time, but eliminating job discrimination against women to promote economic growth is probably faster than waiting for a demographic recovery via fertility rates and more realistic than quadrupling labor productivity with the status quo.

## APPENDIX: THE RF GOVERNMENT DECREE OF 25 FEBRUARY 2000 N 162<sup>152</sup>

On the approval of the list of heavy and hazardous works involving harmful or dangerous conditions of work prohibited to be carried out by women.<sup>153</sup>

In accordance with article 10 of the Federal Law “On the foundations of work safety in the Russian Federation” (Collected legislation of the Russian Federation, 1999, N 29, article 3702) the Government of the Russian Federation decrees:

To approve the attached list of heavy work and work involving harmful or dangerous working conditions for which it is prohibited to use female labor.

President of the Government  
of the Russian Federation

V. Putin

List of heavy and hazardous works involving harmful or dangerous conditions of work prohibited to be carried out by women (approved by Government Decree of the Russian Federation of 25th February 2000 N 162)

I.	Work involving the manual lifting and moving of loads	(No.1)
II.	Underground work	(No.2)
III.	Metalworking	(Nos. 3-23)
IV.	Building, construction and building repair work	(Nos. 24-52)
V.	Mining	(Nos. 53-91)
VI.	Geological prospecting and topographical geodesic work	(Nos. 92-94)
VII.	Drilling wells	(Nos. 95-107)
VIII.	Oil and gas production	(Nos. 108-123)
IX.	Ferrous metallurgy	(Nos. 124-172)
X.	Non-ferrous metallurgy	(Nos. 173-203)
XI.	Repair of electricity power stations and networks	(Nos. 204-205)
XII.	Production of abrasives	(Nos. 206-210)
XIII.	Electrical-engineering production	(Nos. 211-219)
XIV.	Radio-engineering and electronic production	(Nos. 220-222)
XV.	Production and repair of flying apparatus	(Nos. 223)
XVI.	Shipbuilding and ship repair	(Nos. 224-238)
XVII.	Production of chemicals	(Nos. 239-269)

<sup>152</sup> Government of the Russian Federation, “The List of Heavy Work.”

<sup>153</sup> Ibid.

XVIII.	Production and processing of rubber compounds	(Nos. 270-274)
XIX.	Refining of petroleum, gas, shale and coal, production of synthetic petroleum products, petroleum oils and lubricants	(Nos. 275-279)
XX.	Logging and timber rafting	(Nos. 280-288)
XXI.	Production of cellulose, paper, cardboard and products made from them	(Nos. 289-307)
XXII.	Cement production	(No. 308)
XXIII.	Stone working and production of stone products	(Nos. 309-315)
XXIV.	Production of reinforced concrete and concrete products and constructions	(No. 316)
XXV.	Production of insulating materials	(Nos. 317-318)
XXVI.	Production of soft roofing and damp-proofing materials	(Nos. 319)
XXVII.	Production of glass and glass products	(Nos. 320-324)
XXVIII.	Textiles and light industry	(Nos. 325-341)
XXIX.	Food industry	(Nos. 342-363)
XXX.	Railways and underground railways	(Nos. 364-386)
XXXI.	Road transport	(Nos. 387-391)
XXXII.	Sea transport	(Nos. 392-399)
XXXIII.	River transport	(Nos. 400-404)
XXXIV.	Civil aviation	(Nos. 405-409)
XXV.	Communications	(No. 410)
XXXVI.	Printing production	(Nos. 411-416)
XXXVII.	Production of musical instruments	(Nos. 417-418)
XXXVIII	Agriculture	(Nos. 419-427)
XXXIX.	Work performed in various branches of the economy	(Nos. 428-456)

## Notes

### I. Work involving the manual lifting and moving of loads

1. Work involving the manual lifting and moving of loads where the established norms of maximum permitted loads are exceeded for women when lifting and moving loads by hand

### II. Underground work

2. Underground work in the mining industry and in constructing underground facilities excluding work performed by women holding management positions and not performing physical work; women engaged in health and public utilities; women taking a course of study and allowed on apprenticeship in underground sections of an organization; women who from time to time have to go into underground sections of an organization in order to perform work of a non-physical nature (a list of positions of managers, specialists and other employees involved in underground work for which it is permitted, as an exception, to use female labor, is given in point 2 of the notes to the present list)

### III. Metalworking

#### Casting operations

Work performed according to professions and separate categories of workers:

3. Cupola furnaceman
4. Knocker-out of castings engaged in manual knocking-out
5. Burden charger into cupola furnaces and ovens engaged in manual charging of the burden
6. Castings welder
7. Pourer of metal
8. Fettler engaged in working with pneumatic tools
9. Smelter of metal and alloys
10. Workers engaged in the suspending of hot casting on a conveyor and in the servicing and repair of equipment in foundry tunnels

#### Welding operations

Work performed by the following professions:

11. Gas welder and electric welder using manual welding working in enclosed spaces (cisterns, boilers and so forth) and also on tall communications facilities (towers, masts) higher than 10 meters and steeplejack work

#### Boiler, cold forging, drawing and pressing work

Work performed by the following professions:

12. Boilerman
13. Lathe operator on spinning lathes engaged in manual work
14. Caulker engaged in manual work using pneumatic tools

#### Forging press and hot working

Work performed by the following professions:

15. Bander engaged in hot working
16. Springmaker engaged in hot work in forming springs from wire greater than 10 mm in diameter
17. Flarer engaged in the flaring of wheel in a hot state
18. Leaf springmaker working hot metal

#### Metal coatings and painting

19. Pressure sealing inside cooling water jacket tanks
20. Continuous work in lead-sheathing using hot method (not galvanising)

## Fitting and benchwork

Work performed by the following professions:

21. Pneumatic driller performing work with pneumatic tools transmitting vibration to the hand of the operator
22. Repair fitter engaged in installing equipment in the following workshops and departments: hot-rolling, pickling, enameling, insulation using silicone paints, lead-sheathing in cable production, in hot repair of selenium and Schoop processing of apparatus (equipment); setting-up of equipment in workshops and departments for preparing and applying silicone paints and paints containing more than 40% toluene, xylene; repair of equipment in enclosed fuel stores and oil handling at electrical power stations as well as repair of equipment in tunnels and combined-heat-and-power chambers in power networks; servicing of water jacket furnaces in the production of non-ferrous metals and alloys; setting-up and repair of moulds in a hot state; directly in the following workshops: milling, coating, forming, casting, pipe-ramming, litharge mixing and assembly in the production of lead batteries; repair of industrial processing equipment at engine testing stations operating on leaded petrol and located in isolation rooms

## Working with lead

23. Smelting, casting, rolling, fullering and die forging of lead items as well as lead-sheathing of cables and soldering of lead batteries

## IV. Building, construction and building repair work

24. Hot repair of furnaces and boiler fireboxes
25. Removing stubs
26. Fastening of constructions and parts using a riveting gun
27. Slab breaking work, demolition of buildings and facilities
28. Punching holes (channels, recesses and so forth) in concrete, reinforced concrete and stone (brick) constructions manually and using pneumatic tools

Work performed according to the following professions:

29. Reinforcer engaged in manual installation of building frames, in hand-operated and bending lathes and shears
30. Bituminous concrete spreader, bituminous concrete boiler, engaged in manual work
31. Hydraulic excavator operator
32. Navy engaged in sinking wells
33. Bricklayer engaged in laying modular solid silica brick
34. Roofer engaged in steel roofing
35. Caisson worker, caisson sinker, caisson fitter, caisson electrician
36. Road leveling machine operator
37. Road asphalt sprayer operator, motorized digger operator
38. Concrete laying machine operator, mobile bitumen laying machine operator

- 39. Bulldozer operator
- 40. Elevating grader machine operator
- 41. Mobile bituminous concrete mixer operator
- 42. Bituminous concrete laying machine operator
- 43. Single-bucket excavator operator, rotary excavator operator (ditch digger, trench cutter)
- 44. Operator of mobile electric welding unit with internal combustion engine
- 45. Mobile electrical station operator working at an electrical station with an internal combustion engine of 150 horse power or greater
- 46. Aerial erector engaged in working at a height
- 47. Erector of steel and reinforced concrete constructions working at a height and performing steeplejack work
- 48. Solderer using lead (lead solderer)
- 49. Carpenter
- 50. Sanitary engineer engaged in repairing the sewerage system
- 51. Pipe layer of industrial reinforced concrete pipes
- 52. Pipe layer of industrial brick pipes

#### V. Mining

Open mining operations and the surface of shafts and pits in operation and under construction, ore dressing, sintering, briquetting

Work performed according to the following general professions for mining and major mineral works:

- 53. Shothole driller
- 54. Shot firer, master shot firer
- 55. Mine worker engaged in prevention and extinguishing of fires
- 56. Supplier of pit prop materials to a mine
- 57. Pit prop man
- 58. Blacksmith drill sharpener
- 59. Drill operator
- 60. Loading machine operator
- 61. Operator of unit for drilling full-section mine shafts
- 62. Excavator operator
- 63. Tipper operator engaged in manual hauling of trolley cars
- 64. Tunneller
- 65. Cager engaged in feeding trolley cars into the cage manually
- 66. Cleaner engaged in cleaning bunkers
- 67. Duty electrical fitter (fitter) and for repairing equipment engaged in servicing and repair of equipment, mechanisms, water and air distribution units at mine workings. Work performed in respect of the following professions in the enrichment, sintering, briquetting and individual categories of workers:
- 68. Crusher engaged in crushing hot pitch in the production of alumina

69. Roaster engaged in performing the roasting process of ore and materials involved in the production of mercury
70. Workers and skilled personnel engaged in enrichment and crushing and sorting works, pits, mines and metallurgical enterprises engaged in work involving the crushing, reduction, grinding and charging of ores of ferrous, non-ferrous and rare metals, fluorspar and coal during which dust is formed containing 10 per cent and greater free silicon dioxide when performing work by hand
71. Workers engaged in lead enrichment workshops
72. Workers and craftsmen engaged in the enrichment of niobium (loparite) ores

Construction of special purpose underground railways, tunnels and subterranean facilities

Work performed by the following professions:

73. Installer of mining equipment
74. Tunneller engaged in surface works

#### Mining ores

Work performed by the following professions:

75. Miner worker at free-flowing deposits
76. Drill bit sharpener
77. Dredger
78. Seaman dredger
79. Dredger operator
80. Jet unit operator

#### Peat cutting and processing

Work performed by the following professions:

81. Ditch digger
82. Root puller
83. Operator of machines for cutting and processing lump peat
84. Operator of machines for preparing and exploiting peat deposits
85. Peat cutting machine operator
86. Peat worker engaged in tree felling, in lining with peat bricks

#### Processing brown coal and ozokerite ores

Work performed by the following professions:

87. Mineral wax production operative
88. Ozokerite and ozokerite production operative
89. Crusher
90. Briquette press operator
91. Casting machine operator

## VI. Geological prospecting and topographical geodesic operations

Work performed by the following professions:

- 92. Shot firer, master shot firer
- 93. Installer of geodesic signs
- 94. Duty electrical fitter (fitter) and for repairing equipment, engaged in field conditions

## VII. Drilling wells

Work performed by the following professions:

- 95. Driller for operational and prospective drilling of oil and gas wells
- 96. Derrick rigger, derrick rigger welder, electrical rigger
- 97. Drilling unit operator
- 98. Well cementing operator
- 99. Cementing unit operator, cement mixer operator
- 100. Pipe pressure tester
- 101. Driller's mate (first) for operational and prospective drilling of oil and gas wells
- 102. Driller's mate (second) for operational and prospective drilling of oil and gas wells
- 103. Drilling mud mixer engaged in manual mixing of mud
- 104. Drilling unit maintenance fitter engaged directly on drilling units
- 105. Repair fitter engaged in the repair of drilling equipment
- 106. Drill pipe tool joint installer
- 107. Electrical rigger on drilling units

## VIII. Oil and gas production

Work performed by the following professions:

- 108. Driller for major well repairs
- 109. Driller on floating marine drilling rig
- 110. Mobile steam dewaxing unit operator
- 111. Mobile compressor operator
- 112. Lift operator
- 113. Flushing unit operator
- 114. Operator for hydraulic formation fracturing
- 115. Operator for preparing wells for major repairs and subsurface repairs
- 116. Operator for subsurface repairs
- 117. Operator for chemical treatment of wells
- 118. Driller's assistant for major well repairs
- 119. Driller's assistant on floating marine drilling rig
- 120. Workers, managers and specialists constantly engaged in subsurface oil production
- 121. Fitter for installing and repair of marine drilling platforms and piers
- 122. Repair fitter engaged in installing and servicing of process equipment and repair of oil field equipment
- 123. Electrical rigger for repairing and servicing electrical equipment engaged in the servicing and repair of process equipment

## IX. Ferrous metallurgy

Work performed by the following professions:

- 124. Ladler engaged in work with molten metals
- 125. Metal heater engaged in work with continuous, reverberatory furnaces and pits for rolled and pipe production
- 126. Treater of surface defects in metals engaged in work using pneumatic tools

### Furnace production

Work performed by the following professions:

- 127. Derrickman
- 128. Furnace plumber
- 129. Furnaceman
- 130. Scale car operator
- 131. Skip operator

### Casting production

Work performed by the following professions:

- 132. Charging machine operator
- 133. Mixer
- 134. Liner of units
- 135. Furnaceman for reducing iron and firing iron powders
- 136. Melter of reducing agents
- 137. Converter steelman's assistant
- 138. Open-hearth steelman's assistant
- 139. Steelman's assistant for electroslag remelting unit
- 140. Electric furnace steelman's assistant
- 141. Steel caster
- 142. Converter steelman
- 143. Open-hearth furnace steelman
- 144. Electroslag remelting unit steelman
- 145. Electric furnace steelman

### Rolled production

Work performed by the following professions:

- 146. Hot rolling mill operator
- 147. Pitch boiler
- 148. Assistant hot rolling mill roller
- 149. Presser-piercer of rail fastenings
- 150. Wiring fitter engaged in rolled sections production

## Pipe production

Work performed by the following professions:

- 151. Sizing mill operator
- 152. Hot rolled pipe mill operator
- 153. Pipe furnace welding mill operator
- 154. Cold rolled pipe mill operator
- 155. Pipe forming mill operator
- 156. Pipe roller engaged in non-mechanized mills
- 157. Pipe sizing press operator
- 158. Hammer and press forger
- 159. Assistant hot rolled pipe mill operator
- 160. Assistant cold rolled pipe mill operator

## Ferro-alloy production

Work performed by the following professions and individual categories of workers:

- 161. Ferro-alloy furnaceman
- 162. Smelter engaged in smelting and granulation of molten vanadium pentoxide
- 163. Ferro-alloy smelter
- 164. Workers engaged in smelting silicon alloys in open arc furnaces
- 165. Workers engaged in producing metallic chrome and chromium alloys by the aluminothermic method

## Coking by-products production

166. Work connected with direct involvement in production of benzene its hydro-refining and redistillation

Work performed by the following professions:

- 167. Hydraulic gas main operator
- 168. Doorman
- 169. Crusher
- 170. Chuteman
- 171. Gas scrubber pump man engaged in phenol unit servicing in the products recovery workshop
- 172. Maintenance fitter engaged in servicing coking batteries

## X. Non-ferrous metallurgy

Work performed by the following professions

- 173. Caster of anodes engaged in casting hearth sections of anodes in production of aluminum, silumin and silicon
- 174. Installer in repair of vats engaged in drilling the cavity below the cathode rod in production of aluminium, silumin and silicon

- 175. Smelter
- 176. Temperer
- 177. Maintenance fitter, electrical rigger engaged in repair and servicing of electrical equipment engaged in major metallurgical workshops
- 178. Sinterer
- 179. Charger engaged in furnace work in the production of tin

Production of non-ferrous and rare metals, production of  
non-ferrous metal powders

- 180. Work performed by workers and craftsmen engaged in workshops (departments and divisions) for the production of titanium tetroxide (tetrachloride)
- 181. Work performed by workers and craftsmen engaged in workshops for the chlorination of loparite concentrate
- 182. Work performed by workers and craftsmen engaged in workshops (departments and divisions) for the recovery of tetrachloride and separation of metal in the production of metallic titanium
- 183. Work performed by workers and craftsmen engaged in departments (divisions) for the chlorination and rectification of titanium ore (slag)
- 184. Work performed by workers engaged in a department for the separation and treatment of slag using the sublimation method in a fuming unit in the production of tin
- 185. Work performed by workers engaged in smelting shops and also in residue processing in the production of mercury

Work performed by the following professions:

- 186. Anode worker in the production of aluminum
- 187. Knocker-out of titanium sponge
- 188. Knocker-out and smelter of metal
- 189. Cathode worker
- 190. Converter furnace worker
- 191. Condensator worker
- 192. Installer of reaction apparatus
- 193. Mercury separator
- 194. Furnaceman in production of zinc powder
- 195. Waelz furnace operator
- 196. Furnaceman for recovery and distillation of titanium and rare metals
- 197. Furnaceman for recovery of nickel powder
- 198. Furnaceman for treating titanium-containing and rare earth materials
- 199. Slurry worker on electrolyte cells engaged in cleaning cells manually
- 200. Electrolysis worker with fused salts

Shaping of non-ferrous metals

- 201. Work performed by a hot rolled metal worker engaged in rolling of non-ferrous metal and their alloys

## Production of aluminum by electrolytic method

202. Work performed by workers and craftsmen

### Alumina production

203. Work performed by transporter engineer engaged in repair work in places which are difficult to access on pneumatic and hydraulic transporters

### XI. Repair of electricity power stations and networks

Work performed by the following professions:

204. Electrical rigger engaged in repairing overhead electricity power lines engaged in steeplejack work in the repair of high voltage electricity power lines

205. Electrical rigger in repairing and installing cable lines, engaged in repairing cable inputs with litharge and in soldering lead cable joints and shrouds

### XII. Production of abrasives

Work performed by the following professions:

206. Balancer-caster of abrasive wheels engaged in casting abrasive products using lead

207. Bulldozer operator engaged in hot dismantling of resistance furnaces in the production of abrasives

208. Caster of abrasive materials

209. Furnace bottom worker engaged in the corundum mill

210. Dismantler of resistance furnaces engaged in the silicon carbide production mill

### XIII. Electrical-engineering production

Work performed by the following professions:

211. Distiller of mercury

212. Former of mercury rectifiers working with loose mercury

### Electrical carbon production

213. Work performed by workers in melting pitch

### Cable production

Work performed by the following professions:

214. Sheather of cables with lead or aluminum engaged in sheathing using the hot lead method

215. Stripper of sheathing from cable products engaged in stripping of lead sheathes alone

## Production of chemical sources of current

Work performed by the following professions:

- 216. Founder of lead alloy products
- 217. Mixer of dry compound (for lead batteries)
- 218. Smelter of lead alloys
- 219. Battery plate cutter engaged in the forging and separation of molded lead plates

## XIV. Radio engineering and electronic production

Work performed by the following professions:

- 220. Tester of parts and instruments engaged in testing instruments in altitude chambers at a temperature of +28°C and above and -60°C and below
- 221. Caster of magnets in furnace moulds
- 222. Smelter of Schoop alloy and bismuth

## XV. Production and repair of flying apparatus

Work performed by the following professions:

- 223. Engine maintenance fitter and maintenance fitter engaged in repairing engines and assemblies operating on leaded petrol

## XVI. Shipbuilding and ship repair

Work performed by the following professions:

- 224. Reinforcer of ferro-concrete vessels engaged in working with table vibrators, vibrating platforms, caisson units and using hand-operated vibrators
- 225. Ship's metal worker engaged in hot bending
- 226. Ship's boilerman
- 227. Painter, ship's insulator engaged in painting work in cisterns, in the area of the ship's inner bottom, hot wells and other sections of ships which are difficult to access and also work involved in stripping old paint in the indicated areas of ships
- 228. Copper worker producing ship's items engaged in hot operations
- 229. Shipwright working in enclosed sections of ships
- 230. Acceptance trials team workers engaged in dock trials, builder's and government trials
- 231. Ship's chipper engaged in work using hand-operated pneumatic tools
- 232. Assembler of hulls of metal ships engaged in prefabricated, block and building berth assembly of surface ships where work constantly combines electric tack welding, gas cutting and metal working using hand operated pneumatic tools and also in the repair of ships
- 233. Machine fitter for testing units and apparatus engaged in the adjustment and testing of marine diesels in enclosed locations and within ships
- 234. Ship's fitter engaged in installation work within ships undergoing repair
- 235. Ship repair fitter engaged in work within ships

- 236. Ship's hull repairer
- 237. Ship's rigger
- 238. Marine plumber

## XVII. Production of chemicals

Production of inorganic products

Production of organic products

Paints production

Production of medicaments, medicines, biological preparations and materials

Work performed in chemical processes involving the following professions and departments by categories of employees:

- 239. Assistant melter engaged in the melting and enrichment of pitch
- 240. Steam curer engaged in shredding and steam softening of rubber

Production of inorganic products

Production of calcium carbide

- 241. Workers, shift leaders and specialists engaged on furnaces and in manual crushing of carbide

Production of phosgene

- 242. Workers, shift leaders and specialists engaged in industrial process stages

Production of mercury and its compounds

- 243. Workers, shift leaders and specialists engaged in industrial process stages except processes using remote control

Production of yellow phosphorus

- 244. Workers, shift leaders and specialists engaged directly in servicing slot-type shaft furnaces, roasting and sintering furnaces, breeze granulation units, in departments for electrosublimation of phosphorus, in filling phosphorus containers, in servicing containers for storing phosphorus, phosphorus sludge, sludge distillation and in processing slags liquid at high temperature.

Production of phosphorus trichloride and phosphorus pentasulphide

- 245. Workers, shift leaders and specialists engaged in industrial process stages

Production of chlorine by mercury method

- 246. Workers, engaged in industrial process stages

Production of liquid chlorine and chlorine dioxide

- 247. Workers, engaged in industrial process stages

Production of carbon bisulphide

248. Workers, shift leaders and specialists engaged in the retort and condensation departments

Operations with fluorine, hydrogen fluoride and fluorides

249. Workers, shift leaders and specialists (except operations performed in laboratories where hydrofluoric acid and fluorides are used)

Production of arsenide and arsenic compounds

250. Workers, shift leaders and specialists engaged in industrial process stages

Production of chromium tetrachloride

251. Workers, shift leaders and specialists engaged in industrial process stages

Production of industrial iodine

252. Workers engaged in extraction of iodine

Production of organic products

Production of benzathrone and its chlorine and bromine derivatives, vylonthrone

253. Workers, shift leaders and specialists engaged in industrial process stages

Production of aniline, para-nitroaniline, aniline salts and fluxes

254. Workers, shift leaders and specialists engaged in industrial process stages

Production of benzidine and its analogues

255. Workers, managers, specialists and other employees engaged directly in the production processes and at facilities for dissolving the indicated products

Production of carbon tetrachloride, holowax, rematol, sovol

256. Workers, shift leaders and specialists engaged in industrial process stages

Production of chlorine picrime

257. Workers, shift leaders and specialists engaged in industrial process stages

Production of catalysts containing arsenic

258. Workers, shift leaders and specialists engaged in industrial process stages

Production of ziram, mercury and arsenic containing pesticides

259. Workers, shift leaders and specialists engaged in industrial process stages

Production of chloroprene

260. Workers, shift leaders and specialists engaged in industrial process stages

Production of chloroprene rubber and latex

261. Workers engaged in the production process stages of polymerisation and separation of the product

Production of tetra-ethyl lead

262. Workers, managers and specialists engaged in industrial process stages

Production of benzene, toluene, xylene

263. Workers, shift leaders and specialists engaged in industrial process stages

Production of paint

Production of litharge and red lead, lead chromates, lead white, green lead and verdigris

264. Workers, shift leaders and specialists engaged in industrial process stages

Production of man-made fibers and threads

265. Assistant reprocessor engaged in recovery of carbon bisulphide

Production of glass and plastic items based on synthetic tars (phenoloformaldehyde, epoxide, polyester unsaturated tars)

266. Assistants engaged in contact forming of large-size items 1.5m square and over

Production of medicaments, medicines, biological preparations and materials

Production of antibiotics

267. Filtration assistant engaged in manual disassembly and assembly of filter presses with a frame diameter greater than 500 mm

Production of morphine from raw opium

268. Filtration assistant engaged in manual disassembly and assembly of filter presses with a frame diameter greater than 500 mm

Production of androgens

269. Assistant producer of synthetic hormones engaged in producing testosterone preparations and its derivatives

## XVIII. Production and processing of rubber compounds

Work performed by the following professions:

270. Vulcanizer engaged in loading and unloading items in kettles more than 6 meters long, vulcanising propeller shafts

271. Rubber mixing machine operator

272. Workers engaged in the following departments: cold vulcanising, production of radol and vulcanised oil

273. Repairer of rubber products engaged in the production and repair of large-scale rubber parts and products, in vulcanising reinforced parts (large tire outer casings, rubber fuel tanks, storage tanks, conveyor belts and so forth)

Production, reclamation and repair of tires

274. Work performed by a vulcaniser, assembler of outer tire casings (heavy goods vehicles)

## XIX. Refining of petroleum, gas, shales and coal, production of synthetic petroleum products, petroleum oils and lubricants

Work performed by the following professions and separate categories of workers:

- 275. Coke cleaner
- 276. Coke unloader
- 277. Workers, shift leaders and specialists engaged in industrial process units for adding lead to petrol
- 278. Workers engaged in extraction workshops and departments producing aromatic hydrocarbons
- 279. Workers engaged in producing arsenic solutions when scrubbing sulphur-bearing petroleum gas

## XX. Logging and timber rafting

### Logging

- 280. Loading and unloading of round wood (excluding pulpwood, pit props and firewood up to 2 meters long)
- 281. Stacking of round wood (excluding pulpwood, pit props and firewood up to 2 meters long)

Work performed by the following professions:

- 282. Tree feller
- 283. Woodcutter engaged in felling, sawing up felled trees and stacking of timber lengths, in chopping firewood, in preparing and trimming of resinous wood as well as preparing wood using manual tools
- 284. Loader-feller of timber engaged in producing inter-operational and seasonal stocks of felled trees and wood, loading of trees, felled trees and round timber (excluding pulpwood, pit props and firewood up to 2 meters long) involved in timber transporting and rolling stock and unloading, where work is performed by hand
- 285. Logging choker

### Timber rafting

Work performed by the following professions:

- 286. Rafter
- 287. Rigger engaged in the attaching and removing of rigging
- 288. Raft former

## XXI. Production of cellulose, paper, cardboard and products made from them

Work performed by the following professions:

- 289. Operator preparing chemical solutions engaged in dissolving chlorine
- 290. Operator in impregnation engaged in producing anticorrosion and inhibitor treated paper

- 291. Boiler of fibrous raw material
- 292. Cellulose boiler
- 293. Wood steamer
- 294. Crusher of pyrites
- 295. Loader of pulpwood into wood grinders
- 296. Loader of pyrites furnaces and towers
- 297. Sulphate loader
- 298. Acid maker
- 299. Mixer
- 300. Liner of acid holders
- 301. Fiberboard trimmer
- 302. Impregnator of paper and paper products engaged in impregnating fibreboard
- 303. Sulphurous acid reprocessor
- 304. Repair fitter, greaser, cleaner of production process and service premises, electrical rigger involved in repairing and servicing electrical equipment engaged in the production of sulphite wood pulp and sulphurous acid
- 305. Soda maker
- 306. Drier on papermaking (cardboard making) machine engaged on high-speed papermaking and cardboard making machines operating at a speed of 400 metres per minute and above
- 307. Chlorine maker

## XXII. Cement production

- 308. Work performed by workers in cleaning sludge basins and mashes

## XXIII. Stoneworking and production of stone products

Work performed by the following professions:

- 309. Caster of cast stone products
- 310. Stone heater
- 311. Stone trimmer
- 312. Pulverizer operator engaged in breaking up greenstone ballast into powder
- 313. Setter-up of stone processing equipment
- 314. Stone cutter
- 315. Stone milling machine operator

## XXIV. Production of reinforced concrete and concrete products and constructions

- 316. Work as a sawman on concrete and reinforced concrete products

## XXV. Production of insulating materials

Work performed by the following professions:

- 317. Bitumen layer

318. Cupola furnaceman

XXVI. Production of soft roofing and damp-proofing materials

319. Work performed by a loader of curing pans

XXVII. Production of glass and glass products

Work performed by the following professions:

320. Crystal blower (except where engaged in producing items up to 100 mm diameter and wall thickness up to 3 mm)

321. Crystal maker

322. Mirror coater engaged in applying mercury

323. Burden mixer engaged in manual work involving red lead

324. Halm machine operator

XXVIII. Textiles and light industry

Work performed by the following general professions in textiles production

325. Operator of sizer equipment engaged in non-mechanized lifting and removal of rollers

326. Sanitary maintenance engineer engaged in cleaning of sewerage trenches and wells

Primary treatment of cotton

327. Work performed by press operator

Hemp and jute production

328. Work by preparer of fiber engaged in breaking down bales of jute

Wool production

Work performed by the following professions:

329. Washer of industrial woolen cloths

330. Master craftsman's mate engaged in the weaving shed in the production of woolen cloths

Felt making

Work performed by the following professions:

331. Fuller engaged in producing dense felts

332. Footwear loader engaged in manual work

333. Remover of footwear from shoe lasts engaged in removing felt footwear manually

Production of leather and hides and skins

334. Loading and unloading of large hides, skins and semi-finished products into tanning, dyeing and fat-liquoring drums

335. Transportation, unloading and loading of large hides, skins and semi-finished products manually in lime soaking workshops of tanneries

Work performed by the following professions:

336. Fleshing machine operator engaged in manipulating large hides onto lasts manually, in fleshing and pegging out large hides and skins

337. Roller operator for hides engaged in rolling large and stiff hides on rolling jacks

338. Cutter of hides and skins

339. Sorter of products, semi-finished products and materials engaged in sorting large hides and skins

340. Polisher of products, semi-finished products and materials engaged in the manual polishing of large hides and skins on lasts

Production of leather footwear

341. Work by a former of parts and products engaged on machines of the "Anklepf" type

## XXIX. Food industry

342. Baling of waste from production of corrugated packaging

343. Diffusion operator servicing diffusers for periodic operation when loading by hand

344. Ice maker engaged in producing ice in water tanks and stacking it in packs

345. Producer of bone charcoal

346. Operator of cleaning machines engaged in dismantling separators manually

Production of meat products

Work performed by the following professions:

347. Livestock slaughterman engaged in stunning, hooking up, draining blood from large and small horned livestock and pigs; evisceration, skinning large horned livestock manually; cutting up of carcasses; scalding and scorching of pig carcasses and heads; working horizontally on carcasses of large horned livestock

348. Flesher of skins

349. Skin processor

Catching and processing fish

350. All types of work on fishing, prospecting and transfer sea-going vessels, except for floating crab and fish canning factories, fish processing vessels, large freezer fishing trawlers and refrigerated marine vessels, where female labour is permitted for all work except work (profession, position) indicated in sections XXXII "Marine Transport" and XXXIII "River Transport" of the present list

351. Turning over boxes of fish manually

Work performed by the following professions:

- 352. Loader-unloader of food products engaged in loading cages with preserves manually into autoclaves
- 353. Processor of large sea creatures engaged in fleshing skins of sea creatures
- 354. Fish processor engaged in manual emptying and unloading of fish from vats, coffers, vessels, fish-holds and other waterborne containers; stirring fish in salt brine baths by hand
- 355. Packer-presser of food products engaged in the packing (pressing) of fish in barrels manually
- 356. Acceptance inspector of floating craft
- 357. Inshore fisherman engaged in manual hauling of seine nets, fishing under ice using seine nets, place nets and winter nets

#### Baked goods

- 358. Work performed by a dough maker engaged using dough mixing machines with moveable bowls holding more than 330 liters where they are transferred by hand

#### Tobacco, coarse tobacco and fermentation production

- 359. Work performed by auxiliary worker engaged in transporting tobacco bales

#### Perfume and cosmetics production

- 360. Work performed by a worker engaged in grinding mercury chloramide

#### Mining and production of sodium chloride

##### Work performed by the following professions:

- 361. Shoveler of salt in ponds
- 362. Preparer of ponds
- 363. Permanent way man on lake

### XXX. Railways and underground railways

##### Work performed by the following professions and separate categories of workers:

- 364. Battery worker engaged in repairing lead batteries
- 365. Trolley car driver and his mate working on broad-gauge railways
- 366. Guard on freight trains
- 367. Steam train stoker in the depot
- 368. Diesel train driver and his assistant
- 369. Diesel shunter driver and his assistant working on broad-gauge railways
- 370. Steam train driver and his assistant
- 371. Diesel-electric driver and his assistant
- 372. Traction unit driver and his assistant
- 373. Electric locomotive driver and his assistant
- 374. Electric train driver and his assistant
- 375. Track maintenance worker (where established maximum weights for women are exceeded in lifting and moving loads)

- 376. Porter engaged in moving baggage and hand luggage
- 377. Carriage inspector-repairer
- 378. Clearer and cleaner of tubes
- 379. Conductor for accompanying loads and special wagons engaged in accompanying loads on open rolling stock
- 380. Steam engine boiler cleaner
- 381. Coater of sawn timber and wood products engaged in coating using oil-based wood preservers
- 382. Wagon speed controller
- 383. Fitter engaged in repairing rolling stock performing the following work: repairing mountings on steam trains where heat flushing is used; in the heat and smoke boxes; scavenging bottom section and channels of electric rolling stock and diesel-electric trains with electrical transmission; dismantling, repair and assembly of take-off equipment and safety valves, inspecting and priming valves of take-off equipment in cisterns of petroleum and chemical products
- 384. Train marshaller and assistant marshaller
- 385. Electrical rigger on the overhead contact system, engaged in working at height on electrified railways
- 386. Workers engaged in unloading asbestos waste working continuously in a ballast quarry with asbestos waste

#### XXXI. Road transport

Work performed by the following professions:

- 387. Vehicle driver working on a bus with more than 14 seats (except when engaged on factory sites, within towns, journeys to outskirts and in a rural locality made within a single daily shift, where technical servicing and repairs to a lorry are not involved)
- 388. Vehicle driver working on a vehicle with load capacity exceeding 2.5 tons (except when engaged on factory sites, within towns, journeys to outskirts and in a rural locality made within a single daily shift, where technical servicing and repairs to a lorry are not involved)
- 389. Vehicle maintenance fitter performing cleaning of vehicle engine parts operating on leaded petrol.
- 390. Vehicle maintenance fitter engaged in performing running tests on an engine using leaded petrol
- 391. Fuel systems fitter engaged in motor industries in the repair of fuel systems of carbureted engines operating on leaded petrol

#### XXXIII. Sea transport

Work performed by the following professions:

- 392. Offshore boatswain, offshore seaman, offshore able seaman (except working on passenger berths of local and suburban lines)
- 393. Ship's stoker and boiler operator engaged in servicing ships boilers and load-lifting cranes regardless of the type of fuel burned in the boiler

- 394. Senior crane driver and his assistant
- 395. Crane driver (operator) and his assistant engaged on a floating crane
- 396. Machine personnel (mechanics, electromechanical engineers and others) and machine crew (machine operators, motor mechanics, electricians, lathe operators and fitters of other categories and others) for ships of all fleet types
- 397. Deck crew (boatswain, skipper, skipper's mate and seamen of all classes) for ships of all fleet types as well as floating cleanout units, docks, floating conveyors for grain, cement, coal and other dust generating cargoes
- 398. Team group workers and stevedores engaged in loading and unloading operations in ports and quays
- 399. Crew members for all types of fleets whose work combines duties of both deck and engine crews

### XXXIII. River transport

Work performed by the following professions:

- 400. Stevedores, dockers and machinery maintenance engineers (except dockers and machinery maintenance engineers working continually as crane operators, drivers of intra-port transport and workers servicing continuously operating machines and mechanisms for handling cargoes, excluding substances relating to hazard categories 1 and 2)
- 401. Ship's stoker engaged on ships using solid fuel
- 402. Seamen of all classes of passenger and cargo ships (except hydrofoil and hydroplane vessels as well as vessels operating on urban and suburban lines)
- 403. Crane driver (operator) engaged on a floating crane
- 404. Engine crew of ships of all fleet types as well as crew members of ships of all fleet types whose work combines duties of both deck and engine crews

### XXXIV. Civil aviation

Work performed by the following professions:

- 405. Aircraft maintenance engineer (technician) for airframe and engines, aircraft maintenance engineer (technician) for apparatus and electrical equipment, aircraft maintenance engineer (technician) for radio equipment, aircraft maintenance technician (engineer) for parachute and emergency safety equipment, aircraft maintenance technician for fuels and lubricants, engineer engaged directly in technical servicing of aircraft (helicopters)
- 406. Porter engaged in moving baggage and hand luggage in airports
- 407. Fuel filling station operator engaged in fuelling flying craft with leaded petrol as well as fuelling special equipment using leaded petrol
- 408. Workers engaged in carrying out cleaning and repairs inside fuel tanks of gas turbine airplanes
- 409. Workers engaged in preparing bitumen and in repairing runways and taxi-ways (spreading joints) at airports

## XXXV. Communications

410. Operational and technical servicing of radio equipment and communications apparatus on tall constructions (towers, masts) higher than 10 meters and not equipped with lifts

## XXXVI. Printing production

Work connected with application of lead alloys

411. Work in casting operations in the stereotype section

Work performed by the following professions:

412. Setter-up of printing equipment engaged in departments for casting stereotypes,

typefaces, type-setting and spacing materials

413. Caster

414. Stereotypers

Intaglio workshops

415. Work in an intaglio printing department (except receipt and packing of finished products)

416. Work performed by an etcher of intaglio forms

## XXXVII. Production of musical instruments

417. Dressing-off and surface dressing of cast iron piano and grand piano frames on grinding wheels

418. Work performed by a maker of parts for wind instruments engaged in making parts for copper wind instruments

## XXXVIII. Agriculture

419. Performing operations in plant growing, animal husbandry, poultry farming and fur farming where toxic chemicals, pesticides and disinfectants are used (up to 35 years of age)

420. Tending sire bulls, sire stallions, boars

421. Loading and unloading animal carcasses, seized items and pathological material

422. Work in wells, liquid manure tanks and cisterns, tower silos and hay silos

423. Work as tractor driver operators in agricultural production

424. Work as truck drivers

425. Removing skins from large horned cattle, horses and chopping up carcasses

426. Transporting, loading and unloading toxic chemicals

427. Laying drainage pipes manually

## XXXIX. Work performed in various branches of the economy

Work performed by the following professions:

- 428. Trimming, scraping and painting work in marine and railway cisterns, marine liquid fuel tanks and oil bunkering vessels, coffer-dams, fore and after peaks, cable lockers, double bottoms and interior spaces and other places offering difficult access
- 429. Painting work using lead white, lead sulphate or other compounds containing these dyes
- 430. Installation, repair and servicing of overhead contact systems as well as overhead electrical power lines when working at a height above 10 meters
- 431. Direct extinguishing of fires
- 432. Servicing floating craft, dredgers where marine rigging work is employed
- 433. Cleaning containers (storage tanks, hoppers, cisterns, barges and so forth) holding sour crude petroleum, its refined products and sulphurous petroleum gas
- 434. Work with metallic mercury in the open (except employees engaged in units and on semi-automatic machine tools where effective air ventilation is provided at the work place)
- 435. Mixing petrol with tetra-ethyl lead
- 436. Cleaning mercury rectifiers

Work performed by the following professions:

- 437. Antenna and mast worker
- 438. Bitumen boiler
- 439. Driver of propeller-driven sledges
- 440. Diver
- 441. Gas rescue worker
- 442. Batcher of mercury engaged in batching free mercury manually
- 443. Wood chopper engaged in working manually
- 444. Boilerman engaged in repairing hot boilers
- 445. Boiler cleaner
- 446. Paint miller engaged in producing lead paints by hand
- 447. Painter engaged in painting inside containers while applying painting materials containing lead, aromatic and chlorinated hydrocarbons as well as painting large-scale items in enclosed chambers using a spray gun and applying these same painting materials
- 448. Crane driver (operator) engaged in working at sea
- 449. Boiler room operator (stoker) engaged in servicing steam and water-tube boilers loaded manually where over a shift the amount of hard mineral and peat fuel per operator (stoker) exceeds the established norms for maximum permitted loads for women when lifting and moving loads by hand
- 450. Parachutist
- 451. Fire-fighting paratrooper
- 452. Grinder engaged in grinding pitch
- 453. Repairer of rail track auxiliary works
- 454. Emergency recovery works engineer engaged in sewerage system cleaning operations

455. Rigger engaged in installing and dismantling equipment

456. Cleaner engaged in cleaning pipes, furnaces and gas flues

Notes:

1. An employer may take a decision to use female labor in jobs (professions, positions) included in the present list on condition of providing safe working conditions supported by the results of certification of the work places where there is a positive conclusion from the state examining body for working conditions and from the state epidemiological inspectorate of the subject of the Russian Federation
2. List of positions of managers, specialists and other employees connected with underground work for which it is permitted, as an exception, to use female labor: general director, director, head, technical manager, manager, chief engineer of coal mines and coal mine workings, mined and non-mined minerals by underground method, in the construction of underground railways, tunnels, mine construction and mine shaft sinking directorates, construction and installation directorates and construction sites and other underground facilities, their deputies and assistants; head, chief engineer of mining workshops and sections, their deputies and assistants; chief engineer, engineer technician, other managers, specialists and staff not engaged in physical work; engineer, technician, laboratory technician, other specialists and staff not engaged in physical work not involving permanent working underground; chief mine surveyor, senior mine surveyor, mine and mine workings surveyor, mine surveyor; chief geologist, chief hydrogeologist, chief hydrologist, mine and mine workings geologist, geologist, mine and mine workings hydrogeologist, hydrogeologist, hydrologist employees servicing stationary mechanisms having automatic start-up and switch-off and not performing other work connected with physical loading; employees taking a course of education and permitted to take up an apprenticeship in underground sections of organizations; employees of scientific and educational establishments, design and planning organizations; doctor, middle and junior medical personnel, steward and other employees engaged in public health and public utilities and social services.

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## LIST OF REFERENCES

Andrea, Thomas J. *Russia's Demographic Crisis and the Military: Strategic Impact and Security Implications in the 21st Century*. Civilian Research Paper, Carlisle Barracks, PA: U.S. Army War College, 2007.

Associated Free Press. "Russia Bans Women Drivers... on the Metro." *Expatica.Com*. August 3, 2009. [http://www.expatica.com/de/news/european\\_news/Russia-bans-women-drivers\\_\\_\\_-on-the-metro\\_-\\_50309.html](http://www.expatica.com/de/news/european_news/Russia-bans-women-drivers___-on-the-metro_-_50309.html). Accessed February 22, 2010.

Attwood, Lynne. "The Post-Soviet Woman in the Move to the Market: A Return to Domesticity and Dependence?" In *Women in Russia and Ukraine*, by Rosalind Marsh ed., 255–266. New York: Cambridge University Press, 1996.

BBC News. "Polygamy Proposal for Chechen Men." *BBC World*. January 13, 2006. <http://news.bbc.co.uk/go/pr/fr/-/2/hi/europe/4610396.stm>. Accessed March 20, 2010.

Becker, Gary S. *Economics of Discrimination*. Chicago: University of Chicago Press, 1971.

Bremmer, Ian. "State Capitalism Comes of Age." *Foreign Affairs*, May/June 2009: 40–55.

British Broadcasting Company. "Russian Population in Steep Decline." *BBC News*. October 24, 2000. <http://news.bbc.co.uk/2/hi/europe/988723.stm>. Accessed May 26, 2010.

Cavalcanti, Tiago V., and Jose Tavares. *The Output Cost of Gender Discrimination: A Model-Based Macroeconomic Estimate*. Research Paper, Lisboa, Portugal: Universidade Nova de Lisboa, July 2007.

Chiswick, Barry R. "The Economics of Discrimination." In *The NEW Economics of Human Behavior*, edited by Mariano Tommasi and Kathryn Ierulli, 15–26. New York: Cambridge University Press, 1995.

Cordesman, Anthony H, and Martin Kleiber. *The Asian Conventional Military Balance 2006: Overview of Major Asian Powers*. Working Draft, Washington, D.C.: Center for Strategic and International Studies, 2006.

Curtis, Glen E. ed. "Russia: A Country Study." *Library of Congress Country Studies*. July 1996. [http://lcweb2.loc.gov/cgi-bin/query/r?frd/cstdy:@field\(DOCID+ru0095\)](http://lcweb2.loc.gov/cgi-bin/query/r?frd/cstdy:@field(DOCID+ru0095)). Accessed March 10, 2010.

Donahue, Dennis. "The Future of Work in Russia: Population Projections and the Labor Force." *Population Association of America Annual Meetings*. Boston, MA, 2004. 1–31.

Eberstadt, Nicholas. *Russia's Peacetime Demographic Crisis: Dimensions, Causes, Implications*. NBR Project Report, Seattle: The National Bureau of Asian Research, 2010.

Eberstadt, Nicholas, and Apoorva Shah. *Russia's Demographic Disaster*. AEI Special Report: Russian Outlook, Washington D.C.: American Enterprise Institute for Public Policy Research, May 2009.

Esteve-Volart, Berta. *Gender Discrimination and Growth: Theory and Evidence from India*. Research Paper, London: The Suntory Centre, 2004.

EurasiaNet. "Russia: Central Asia's Female Labor Migrants Grapple with Uncertainty." August 12, 2009. <http://www.unhcr.org/refworld/docid/4a8414fb21.html>. Accessed November 30, 2009.

Federal State Statistics Service. *Federal State Statistics Service*. 2009. <http://www.gks.ru/wps/portal/english>. Accessed March 2010.

Feshbach, Murray. "Russia's Population Meltdown." *The Wilson Quarterly*, Winter 2001: 15–21.

Filtzer, Donald. "Industrial Working Conditions and the Political Economy of Female Labour." In *Women in Russia and Ukraine*, by Rosalind Marsh ed., 214–227. New York: Cambridge University Press, 1996.

Gneezy, Uri, Kenneth L. Leonard, and John A. List. "Gender Differences in Competition: Evidence From a Matrilineal and a Patriarchal Society." *Econometrica: Journal of the Econometric Society*, September 2009: 1637–1664.

Golloher, Jessica. "Jobs Women Can't Do in Russia." *PRI's The World*. June 12, 2009. [http://www.pri.org/world/jobs-women-can\\_t-do-russia1427.html](http://www.pri.org/world/jobs-women-can_t-do-russia1427.html). Accessed October 20, 2009.

Government of the Russian Federation. "The List of Heavy Work and Jobs with Harmful or Dangerous Conditions Prohibited to Women." *RF Government Decree of 25 February 2000 N 162*. Translated by Universal Technical Translation. Moscow, February 25, 2000.

———. "Concept of Population Policy of The Russian Federation for the Period Until 2015." *AKDI*. trans. Microsoft Translator. May 15, 1997. <http://www.akdi.ru/econom/program/demogr.htm>. Accessed November 19, 2009.

———. *Constitution of the Russian Federation*. Moscow, 1993.

———. *Labor Code of the Russian Federation*. 2001.

Gross, Daniel. “Children For Sale.” *Slate*. March 24, 2006.  
<http://www.slate.com/id/2142366/>. Accessed March 20, 2010.

Grossbard-Shechtman, Shoshana. “Marriage Market Models.” In *The New Economics of Human Behavior*, edited by Mariano Tommasi and Kathryn Ierulli, 92–112. New York: Cambridge University Press, 1995.

Hazlitt, Henry. *Economics in One Lesson*. Three Rivers Press: New York, 1979. Human” *REFWORLD*. March 1, 1995.  
<http://www.unhcr.org/refworld/docid/3ae6a7d80.html>. Accessed Ocotber 9, 2009.

Hussein, Shereen, Jill Manthorpe, and Anne Bakilana. *The Competing Demands for Women’s Labor: the Role of Women in Long-term Care Provision in the Russian Federation*. Working Paper, Washington D.C.: World Bank, Human Development Sector, November 2009.

Hyer, Janet. “Managing the Female Organism.” In *Women in Russia and Ukraine*, by Rosalind Marsh ed., 111–120. New York: Cambridge University Press, 1996.

Ilic, Melanie. “Generals Without Armies, Commanders Without Troops.” In *Women in Russia and Ukraine*, by Rosalind Marsh ed., 228–240. New York: Cambridge University Press, 1996.

International Association of Athletics Federation. *12th IAAF World Championships In Athletics: IAAF Statistics Handbook*. Berlin 2009. Monte Carlo: IAAF Media & Public Relations Department, 2009.

Keenan, Edward L. “Muscovite Political Folkways.” *Russian Review*, Vol. 5 No. 2, April 1986: 115–181.

Khmeley, Mikkhail. “Terra Daily.” *Russia Has Become a Nation of Pensioners*. July 10, 2007.  
[http://www.terradaily.com/reports/Russia\\_Has\\_Become\\_A\\_Nation\\_Of\\_Pensioners\\_999.html](http://www.terradaily.com/reports/Russia_Has_Become_A_Nation_Of_Pensioners_999.html). Accessed June 14, 2010.

Klasan, Stephan. *Does Gender Inequality Reduce Growth and Development?* World Bank Policy Research Report Working Paper No. 7, Washington D.C.: World Bank, 1999.

Klintsov, Vitaly, Irene Shvakman, and Yermolai Solzhenitsyn. "How Russia Could Be More Productive." *McKinsey Quarterly*. September 2009.  
[http://www.mckinseyquarterly.com/How\\_Russia\\_could\\_be\\_more\\_productive\\_2435](http://www.mckinseyquarterly.com/How_Russia_could_be_more_productive_2435). Accessed April 4, 2010.

Kramer, Andrew E. "Russia Claims Its Sphere of Influence in the World." *The New York Times*, August 31, 2008.

Lapidus, Gail Warshohsky. *Women in Soviet Society: Equality, Development, and Social Change*. Los Angeles, CA: University of California Press, 1978.

Leities, K. *Recent Economic Developments in Russia*. Edited by Harald Westergaard. New York: The Clarendon Press, 1922.

Malia, Martin. *The Soviet Tragedy: A History of Socialism in Russia, 1917–1991*. New York: The Free Press, 1994.

Matthews, Owen, and Anna Nemstova. "The Kremlin Vigilantes." *TIME Magazine*, February 23, 2009: 36–37.

Nabiullina, Elvira. "Facing Unprecedented Challenges." *FIRST Special Report*. June 9, 2009. <http://www.firstmagazine.com/DownloadSpecialReportDetail.231.ashx>. Accessed November 19, 2009.

Nafziger, E. Wayne. *Economic Development*. Cambridge, NY: Cambridge University Press, 2006.

Nichol, Jim. *Russian Political, Economic, and Security Issues and U.S. Interests*. CRS Report for Congress, Washington D.C.: Congressional Research Service, 2010.

Odynova, Alexandra. "Court Upholds Ban on Female Train Drivers." *Moscow Times*. May 22, 2009. <http://news.infoshop.org/article.php?story=20090531225620436>. Accessed October 7, 2009.

Pipes, Richard. *Russia Under the Old Regime*. 2nd Edition. New York: Penguin Group, 1995.

Reuters. "Woman Appeals Ban on Female Metro Drivers." *Today's Zaman*. May 25, 2009. <http://www.todayszaman.com/tz-web/news-176214-goldwoman-magenta-magentaappeals-aqua-aquaban-on-chartreuse-chartreusefemale-green-greenmetro-drivers.html>. Accessed October 20, 2009.

Russia Rule of Law Program, American Bar Association's Central European and Eurasian Law Initiative. *CEDAW Assessment Tool Report for the Russian Federation*. Trans. Olga Vovk, Moscow: American Bar Association, 2006.

Russian Soviet Government Bureau. *Labor Code of 1918*. Translated by Microsoft Translator. Moscow, 2001.

———. *The Labor Laws of Soviet Russia, 3rd edition*. New York: Russian Soviet Government Bureau, 1920.

Sargeant, Elena. “The ‘Woman Question’ and Problems of Maternity.” In *Women in Russia and Ukraine*, by Rosalind Marsh ed., 269-285. New York: Cambridge University Press, 1996.

Silk, Leonard. *Economics in the Real World*. New York: Simon and Schuster, 1984.

Stites, Richard. *The Women’s Liberation Movement in Russia*. Princeton, NJ: Princeton University Press, 1990.

Stonebraker, Robert J. “The Untied Knot: Marriage on the Skids.” *The Joy of Economics: Making Sense Out of Life*. February 15, 2010.  
[http://www.google.com/imgres?imgurl=http://faculty.winthrop.edu/stonebrakerr/book/book%2520images/SDofwives.gif&imgrefurl=http://faculty.winthrop.edu/stonebrakerr/book/marriage.htm&usg=\\_\\_fiL0X7DEYFCElztWjDCSiPJCO0=&h=241&w=478&sz=2&hl=en&start=26&um=1&it](http://www.google.com/imgres?imgurl=http://faculty.winthrop.edu/stonebrakerr/book/book%2520images/SDofwives.gif&imgrefurl=http://faculty.winthrop.edu/stonebrakerr/book/marriage.htm&usg=__fiL0X7DEYFCElztWjDCSiPJCO0=&h=241&w=478&sz=2&hl=en&start=26&um=1&it). Accessed May 26, 2010.

Twigg, Judith. *National Security Implications of Russia’s Health and Demographic Crisis*. PONARS Policy Memo 360, Virginia Commonwealth University: PONARS, 2004.

U.S. Central Intelligence Agency. *CIA World Factbook: Russia*. October 2009.  
<https://www.cia.gov/library/publications/the-world-factbook/geos/rs.html>. Accessed March 7, 2010.

United Nations. *Millenium Development Goals Indicators*. 2010.  
<http://mdgs.un.org/unsd/mdg/Metadata.aspx?IndicatorId=0&SeriesId=758>. Accessed March 20, 2010.

———. *Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)*. 1979.

United Nations Gender Theme Group. *The Report on Gender Equality and Extension of Women’s Rights in Russia in the Context of Millennium Development Goals*. Moscow: Office of the United Nations Resident Coordinator to the Russian Federation, 2005.

Vishnevsky, Anatoly, and Sergey Bobylev. *Russia Facing Demographic Challenges*. National Human Development Report Russian Federation 2008, Moscow: City Print, 2009.

Ward, Clarissa. "Nuclear Beauties Wanted for Russian Competition." *ABC News / Technology*. February 17, 2009.  
<http://abcnews.go.com/Technology/story?id=6889182&page=1>. Accessed May 27, 2010.

Womack, Helen. "Why Employ Women When there are Men out of Work? It's Better that Women do Housework." *The Independent*. March 21, 1993.  
<http://www.independent.co.uk/news/world/why-employ-women-when-there-are-men-out-of-work-its-better-that-women-do-housework-sex-discrimination-in-russia-is-now-close-to-becoming-official-policy-1498922.html>. Accessed March 12, 2010.

World Bank. *Engendering Development: Through Gender Equality in Rights, Resources, and Voice*. World Bank Policy Research Report, New York: Oxford University Press, 2001.

World Health Organization. *World Health Organization: Mental Health*. 2009.  
[http://www.who.int/mental\\_health/prevention/suicide\\_rates/en/](http://www.who.int/mental_health/prevention/suicide_rates/en/). Accessed December 2009.

Zakharov, Sergei V. *Recent Trends in First Marriage in Russia: Retarded Second Demographic Transition*. Scientific Paper, Moscow: Russian Academy of Sciences, 2005.

Zbarskaya, Irina coordinator. *Employment Among Women with Children and Child Poverty in the Russian Federation*. MONEE Country Analytical Report, Florence, Italy: UNICEF Innocenti Research Centre, 2003.

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